

SAVING AN HISTORIC LAWN: CONSERVATION PROGRESS REPORT

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Repairing historic buildings in a manner sensitive to conservation considerations is nothing new to the National Trust and its architects. However, the task of restoring the roof of Llanerchaeron Mansion, a 200-year-old Nash property in Dyfed, Mid Wales, has thrown up some unique problems for Trust staff.

Perhaps for the first time in the history of this august organisation, their troubles are mainly macro-mycological! The tiny lawn, hugging two sides of the house (Fig 1), supports a remarkably rich fungus flora which includes no fewer than four British Red Data List species and seven European red list taxa.

The unkempt, mossy sward is considered to be so important mycologically that, as BMS Deputy Conservation Officer and encouraged by BMS President Dr. Juliet Frankland, I am currently negotiating with the Trust and with the Countryside Council for Wales (CCW) to have it officially 'notified' as a Site of Special Scientific Interest. CCW's Director of Conservation, Dr. Ian Bonner, is well disposed to the idea and Philip James, the Trust's Regional Land Agent, is sympathetic and anxious to conserve the lawn. BMS Council have agreed to allocate funds for 'interpretive' material such as leaflets and signs explaining to visitors why the lawn is so special. Here is conservation history in the making for all three organisations.

Given such all-round benevolence, the future management and conservation of the lawn at Llanerchaeron appeared to be in safe hands. Negotiations over SSSI status were scarcely a few months' advanced, however, when an unexpected threat emerged in the shape of a windfall for the National Trust. A well-wisher left a substantial legacy which made it possible for the Trust, with grant aid from the Welsh historic buildings watchdog, Cadw, to replace completely the dilapidated slated roof and its timbers riddled with dry rot – the one fungus National Trust staff know only too well!

When architect Alwyn Jones explained the scale of the project to me and to Dr. Sue Byrne, CCW Assistant Regional Officer, we were horrified. This was not just a matter of a couple of men on the roof replacing slates, with carpenters inside the loft mending joists. It was to be a £600,000 contract lasting for ten months and involving 30 or more craftsmen engaged in the wholesale removal and replacement of the roof and its supporting structure. First, a massive dome was to be constructed, covering the entire roof of the main house and servants' wing above chimney height, supported by steel towers and buttressed by outliers pegged into the ground at an angle. Between these, conventional builders' scaffolding was to be erected.

If Alwyn Jones and the contractors had proceeded along standard building practice lines, the steel towers would have been embedded in huge concrete blocks sunk into the ground and the lawn would have turned into the barren rubble of a building site. But Philip James would not hear of this. By now, he and the Trust had come to regard the operation as not one conservation project, but two. The preservation of the environment, including the lawn and its fungi, was as important as the preservation of the fine architecture of the Nash house, he said. Conservation did not stop at the edge of the building.

It was agreed that instead of concrete blocks, a series of wooden sleepers would be laid down to spread the load and reduce the area of lawn affected. Once the scaffolding was up, the lawn would be declared a 'no-go zone' for contract workers. It would be fenced off and neither men nor vehicles would be allowed across it. The crane to install the roof section would operate only from the driveway at the front of the house and there would be only one access point on to the scaffolding, from the drive on the front corner of the building. At first it was suggested that the lawn should be completely covered to avoid damage

from falling slates, plaster and other builders' materials. But this was ruled out when it was realised that ten months' exclusion of light and air might do untold damage to fungal mycelium and the grasses. Instead, a sort of safety net would be fitted above ground level to catch any debris.

All these measures would, of course, increase the cost of the restoration project and the Trust is to be applauded for its enlightened attitude and its willingness to meet the cost of conservation in the wider sphere. Perhaps the most significant (and unusual) concession the Trust was prepared to make – and to pay for – was for a clause to be written into the contract requiring the work force to be employed for an extra day before the scheme began. This was to give Dr. Byrne and me the opportunity to lay on a 'mycological teach-in' for the workers and to brief them on the importance of the lawn and the need to avoid disturbance to it as much as possible. By explaining why their normal working practices were being modified, we hoped that they would co-operate more fully in trying to safeguard the fungi and the lawn.

Work on the project should start in September. None of us is at all confident that such a fragile habitat will survive even the trampling and physical disruption of the turf during the initial erection of the scaffolding – to say nothing of the longer-term threat of input of building materials such as lime plaster from the sides of the house, which could fundamentally change the nutrient status of the soil and eliminate many fungal species. The basic conservation management tenet 'maintain the status quo' will clearly be difficult to sustain here for the next ten months.

What is the status quo at Llanerchaeron? What are the components of the lawn's rich and diverse mycoflora? In the autumn of 1992 a group of local naturalists held a fungus foray at Llanerchaeron. As is the wont of forayers, they went around most of the estate like an army of vacuum cleaners, picking and carrying off anything they found which remotely resembled a fungus. On the lawn, however, they paused, astonished at the array of *Hygrocybe* species which confronted them – dominated by the elegant *H. calyptraeformis* (Fig 2), which is included as Vulnerable on the provisional Red Data list of British Fungi (Ing, 1992). They also encountered a number of what were to them rather bizarre fructifications. With rare and

refreshing restraint, they left them in situ – and telephoned me.

When I arrived the next day I too was astonished. I was also delighted to be able to make my first and only sighting of *Microglossum olivaceum*. This member of the Geoglossaceae appears on the British Red Data List as Vulnerable and on the Red Data List of Endangered European Fungi (Ing, 1993) in Group B, i.e. 'widespread losses, evidence of steady decline, some national extinctions, medium-level concern'. It is, in fact, extremely rare in European terms and appears on no fewer than nine out of the 11 red lists so far published in Europe (Arnolds & de Vries, 1993). Also collected on that first occasion were *Clavaria incarnata*, *C. vermicularis* and *C. zollingeri* (Fig 3) – the latter being another Vulnerable species on the British list and rated in Group C, 'lower-level concern', in Europe.

Fig 3 on the back cover of this issue shows two other *Hygrocybe* species recorded at the site; *H. splendidissima* and *H. punicea*, the latter being a European red list species.

Between 1992 and 1994 I conducted an unofficial survey of the lawn and recorded a total of more than 50 macrofungal taxa. My list included 20 species and two varieties in the genus *Hygrocybe* (including *H. persistens*, Fig 4), five members of the Entolomataceae, four clavarioid fungi and one in the Geoglossaceae. Other *Hygrocybe* species on the European red list were *H. intermedia*, *H. ovina* and *H. unguinosa*. My records also included the rare *H. irrigata*, which perhaps should be on the British red list. In the herbarium at Kew there are only four records of this taxon, with none since 1952. In 1993 and 1994 *Porpoloma* (formerly *Hygrocybe*) *metapoida*, on both British and European red lists, fruited on the lawn. Incidentally, three orchid species were also recorded, together with some other uncommon plants such as the ivy-leaved bellflower (*Wahlenbergia hederacea* L.).

The orchids, together with the four fungal groups mentioned, are characteristic of old, undisturbed lowland grasslands – the unimproved mesic pastures which were once a common feature of the British landscape but which have now almost disappeared as a habitat here and in many parts of Europe because of modern agricultural practices.

The lawn at Llanerchaeron is 200 years old and



Fig 1 Local naturalists on a fungus foray on the lawn at Llanerchaeron Mansion, the 200-year-old National Trust property in the Aeron Valley, near Aberaeron, Dyfed. (Photo: John Savidge).

for the past 50 years it has been in a time warp. Its 'minimal' management has consisted of little more than regular but light mowing, with the grass cuttings removed. It has suffered no 'improvement' in the form of fertiliser, herbicide, moss-killer, pesticide or fungicide, no top dressing or other modern lawn treatment. Being only two miles from the Cardigan Bay coast, it enjoys a climate conducive to plant growth, with relatively high rainfall, little or no air pollution and mild winters (although unexpected early and late frosts do sometimes occur in the valley of the River Aeron).

Although man's influence has been very strong here, this postage-stamp lawn, covering less than a quarter of an acre, appears to qualify for



Fig 2 The elegant *Hygrocybe calyptraeformis*, which used to be common on estate grasslands but is now regarded as 'vulnerable', fruiting at Llanerchaeron. (Photo: John Savidge).

classification as a rare survival of semi-natural ancient grassland. Because it is so well represented by members of the Hygrophoraceae, Entolomataceae and Clavariaceae it can be legitimately regarded as belonging to the so-called category of '*Hygrophorus* grasslands'. Arnolds (1988) describes these as being in urgent need of protection, since, he maintains, the development of a rich and characteristic grassland mycoflora takes at least 50 years.

It was with these considerations in mind that Dr. Frankland and I began to investigate the possibility of obtaining SSSI status for the Llanerchaeron lawn. Although our suggestion has been well received, the regulations governing notification of SSSIs are now much more stringent than they were 20 years ago when Knavenhill Wood in Warwickshire was designated as an SSSI solely on the strength of its fungus flora (the only example I know of this happening). The ball is now firmly in the BMS court and we have to produce written evidence from a number of recognised 'authorities' and reliable sources to substantiate the claim that the lawn has high conservation value. We also have to provide evidence showing comparisons which indicate the relative richness of the lawn with regard to other grassland locations. This is far from easy, since most published records of mycofloras relate to woodland and many records, such as those in the BMS database, are fragmentary and not site orientated.



Fig 3 *Clavaria zollingeri*, which fruits in three discrete zones on the lawn at Llanerchaeron; one of four British Red Data List species recorded there. (Photo: Maurice Rotheroe).

Such usable data as has emerged refers to very much larger areas of grassland than the Llanerchaeron lawn. Records combined from all the



Fig 4 *Hygrocybe persistens* (= *H. langei* of the New Check List), which regularly fruits on the lawn at Llanerchaeron. (Photo: John Savidge, at Ynyslas).

grasslands on sand dunes in Wales, for example, show totals of 27 *Hygrocybe* species, 23 *Nolanea/Leptonia* species, six clavarioid species and five members of the Geoglossaceae. Dr. Jack Marriott (pers. comm.) kindly furnished records gathered since 1984 from The Patches, a 500-year-old area of grassland in the Forest of Dean covering 3.7 acres (1,500 square metres). His data were: *Hygrocybe* 32 species and one variety; *Entoloma* 17; clavarioid fungi 3; and no Geoglossaceae. I am grateful for records supplied by Margaret Holden (pers. comm.) relating to Rothamsted Manor lawns. Her species totals (in the same order as above) were: 13:3:3:2. It is interesting to note from Dennis (1995) that there are more wax caps on the Llanerchaeron lawn than have been recorded in one of the most intensively studied areas in Britain, ie the vice-county of East Sussex (19 spp.). The quest for lists of the four characteristic groups from other grassland locations in Britain continues.

The experience gained in treading through the paperwork towards SSSI notification is clearly going to be invaluable. If we are successful, then perhaps this will become a motivating precedent

which will encourage others to identify and survey traditional, unimproved lawns and seek their protection.

Meanwhile we await with apprehension the outcome of the reroofing work on Llanerchaeron Mansion, in the fervent anticipation that there will be something left worth conserving on the lawn at the end of the contract.

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