

A BRYOLOGICAL TOUR THROUGH SHROPSHIRE

Mossing about on the Welsh border confirms one's general impression of a land intermediate between the Midland plain to the east and wilder Welsh terrain further west. The Marches are truly a border for man and moss alike, on the edge of the recorded distributions of many species, half way between their rugged and rainy western stronghold and the English Midlands, where many fade out as a flatter landscape and drier conditions combine to deprive them of the moisture they crave and the habitats in which they thrive.

Within Shropshire there is a north-south axis too. The largely arable terrain of north Shropshire is a westerly tongue of the English plain, while the south of the county forms an easterly outlier to more pastoral Welsh hills. This mixture of upland and lowland - combined with a diversity of geological formations unmatched in any other county - accounts for Shropshire containing about half the British bryoflora, with over 500 taxa recorded and for which vouchers exist.

For vascular plants, one's best chance of contributing to the sum of knowledge in Salopian field-science lies in finding new or rare hybrids, burying oneself in the labyrinthine intricacies of apomictic aggregates, or loitering round peoples' back gardens waiting for ecological misfits to fall through the hedge. Bryologists are much amused by these strange antics, for mosses and liverworts rarely hybridize, and those which live in gardens do so of their own free will.

Moreover, the geographical distributions of bryophytes in Britain remain poorly elucidated compared with those of vascular plants, so bryologists may readily discover mosses and liverworts not previously known in our region, or not seen here for many years, or establish that species hitherto regarded as locally rare are not rare at all. Even in the county's better explored localities, much seems to still await discovery. The localities mentioned below may be bryologically best in Shropshire, but they also betray where bryologists have concentrated on hitherto, and there is every likelihood that as other sites become known they too will demand inclusion in this travelogue. Our present tour through Shropshire begins in the shady green swathes of Wyre Forest at the south-east corner of the county, and zig-zags north-west to the sun-baked limestone of the border hills near Oswestry.

Maps and other details about National Nature Reserves, Sites of Special Scientific Interest, etc., can be found at www.natureonthemap.org.uk and www.magic.gov.uk has information about statutory sites. Photographs of some of the sites mentioned below and which are nature reserves of the Shropshire Wildlife Trust can be found on the Trust's web-site at www.shropshirewildlifetrust.org.uk Go to the Nature Reserves Map and then click on the required site for a brief description and usually a photograph. There is also bryological content (including images) on a web-site funded by Shropshire County Council at www.secretshropshire.org.uk

A "Virtual Local Records Centre" is bedded into the "Featured Content" section of the "Secret Shropshire" web-site under a heading "What's outside your window", but the VLRC is also at www.secretshropshire.co.uk This link takes you directly to the front page of the VLRC section of the Secret Shropshire web-site.

www.NaturalShropshire.org.uk also has useful information, with dot-maps and lists of species in each tetrad.

Wyre Forest (SO 77)

This ancient semi-natural forest on the county's southern border with Worcestershire cloaks rather acidic Carboniferous marls, sandstones and breccias on the plateau. These rocks themselves overlie sandstones and shales of Middle Coal Measure Carboniferous age which are exposed particularly where streams have cut into the younger rocks. The forest's botany mirrors its geology, with oak, birch, and a calcifugous ground-flora on the flat, higher ground, but on the slopes and in the valleys draining down to Dowles Brook a much more diverse bryoflora feeds off salts and minerals derived from bands of coal and occasional tuffs of limestone.

Moreover, although formerly much coppiced for charcoal-burning, Wyre has never been clear-felled, so still harbours liverworts which can only survive in the humidity provided by a continuous shade of trees. *Jamesoniella autumnalis*, for example, was reported in 1969 from **Skeys Wood** (SO 7777), which, although in Worcestershire, is nevertheless part of the vice-county of Shropshire. In the early years of the 20th century John Bishop Duncan (1869-1953; see <http://britishbryologicalsociety.org.uk/>) - then a clerk at the Midland Bank in Bewdley and a field-bryologist of national standing - would have caught the train to the forest on a line which has long since become defunct, and alighted on a platform now reclaimed by nature. He discovered the *Jamesoniella* in the Shropshire part of Wyre, as well as several other liverworts also constrained by their craving for moisture to westerly districts of Britain, and remarkable for occurring this far east: *Bazzania trilobata*, *Blepharostoma trichophyllum*, *Metzgeria conjugata*, *Plagiochila spinulosa*, *Saccogyna viticulosa*, *Tritomaria exsectiformis* and *T. quinquedentata*. Of these species, only *Bazzania trilobata* and *Saccogyna* have been reported from Shropshire's Wyre since Duncan found them. Do the others still occur? Of mosses, Duncan found *Bryoerythrophyllum ferruginascens* (a normally montane species not found in Shropshire before or since), *Loeskeobryum (Hylocomium) brevirostre*, and *Seligeria recurvata*. His 1906 record of *Philonotis arnellii* was repeated 20 years later by W.B. Grove, but *Antitrichia curtipendula* has much decreased in Britain, and is probably extinct in Shropshire.

Duncan, who was President of the British Bryological Society in 1937-38 and the society's Recorder for mosses for many years, remains the only prominent bryologist ever to have repeatedly recorded in Wyre. Of occasional incursionists, J.E. Bagnall (<http://britishbryologicalsociety.org.uk/>) reported *Fossombronia caespitiformis* and *Jungermannia sphaerocarpa* in 1892, Binstead (<http://britishbryologicalsociety.org.uk/>) found *Plagiothecium latebricola* in 1903, the BBS spent a day in the Worcestershire part of the forest in 1959 and 2004, and S.W. Greene and M.C. Clark wrote a paper about the forest's bryoflora in 1962. *Lejeunea lamacerina* occurs by the Dowles Brook and in Skeys Wood. Skeys Wood also contains *Heterocladium heteropterum* var. *heteropterum*, *Hookeria lucens*, *Microlejeunea ulicina* and *Saccogyna viticulosa*. Baveney Brook (SO 7076) and environs is also interesting, with *Dicranum fuscescens*, *Didymodon spadiceus*,

Fissidens osmundoides, *Hookeria lucens*, *Rhynchostegiella teneriffae* and the liverwort *Riccardia palmata*.

Hardcore used for constructing the numerous forestry tracks offers a modern, additional, fairly base-rich, unshaded, ephemeral habitat which Duncan would not have had the opportunity to examine, but much of the forest has changed relatively little in the last century since charcoal-burning ceased. Several herb-rich meadows and orchards (for example, near **Bell Coppice**, SO 7175) may also be bryologically interesting, and discovery of *Fissidens rufulus* in the Shropshire part of Wyre during 2005 and *Riccardia palmata*, *Dicranum fuscescens* and *Pohlia drummondii* in 2007 suggest that more remains to be discovered.

Access to many parts of the forest is straightforward; there is a Visitor Centre and car park in the Worcestershire part of the forest at SO 752740, and car parks in the Shropshire part of the forest at SO 744784 and 747783. Interesting western parts of the forest can be explored after parking in a small layby and gated entrance to a forestry track at SO 714766.

Cramer Gutter (SO 6479)

A few miles west of Wyre Forest, on Catherton Common just east of Titterstone Clee Hill, Cramer Gutter is a nature reserve of the Shropshire Wildlife Trust. Although only one field, it has many plants which are rare so far east. Bog-mosses (*Sphagnum* species) abound in the wettest part of the reserve, including *Sphagnum compactum* and *S. tenellum*. Water gradually flows through the mire down a slope at Cramer, bringing minerals with it and also maintaining oxygen levels, enabling some plants to assimilate minerals which would be unobtainable in anaerobic or mineral-poor conditions. Perhaps this is why Cramer is so rich in liverworts which weave across and between the stems of *Sphagnum*: *Mylia anomala*, *Cephalozia connivens* and *C. macrostachya*; also *Cladopodiella fluitans* and *Odontoschisma sphagni* and their gemmiferous congeners *C. francisci* and *O. denudatum*. The tiny *Kurzia pauciflora* is common, and the rare, even more minute *Cephaloziella elachista* also occurs. Cramer is a wonderful place to botanize on fine summer days, with Cranberry (*Vaccinium oxycoccus*) and orchids in flower, or heather and the rare Marsh Gentian (*Gentiana pneumonanthe*) later in the season, and only the song of birds and hum of insects disturbing the peace. *Hyocomium armoricum* and *Sphagnum quinquefarium* grow under birch trees by the stream at the south-east end of the reserve, and flushes on Catherton Common south of the reserve are also rich in bryophytes.

To reach the reserve, either park at the side of the lane at SO 647798 and take the footpath crossing the field to the south, or park by the road crossing Catherton Common at SO 642788 and walk eastwards over the common.

Titterstone Clee Hill (SO 57 and 67)

To the west of Cramer Gutter, Titterstone Clee Hill has some of the highest ground in Shropshire (just over 500 metres), so its air and soil remain colder and wetter than elsewhere so far south-east in Britain. The persistent moisture attracts a suite of

species uncommon or unknown elsewhere in the county, otherwise confined to districts further north and west, a source of pride to local botanists and of interest for all who do not relish long journeys to Snowdonia or Scotland to see these plants.

The hill is made of Devonian Old Red Sandstone overlain by Carboniferous sandstone and limestone, intruded at the summit by a hard, dark dolerite not unlike basalt in appearance. This dolerite forms the screes below the summit. Coal, lime, and ironstone have all been mined from Clee in the past, and the dolerite is still quarried for roadstone. A band of Carboniferous Limestone outcrops on the north and south sides of the hill, at Farlow and Oretton to the north, and the Novers to the south, but the sheepwalks of the open hillside are for the most part unremittingly acidic.

Calcifuges thrive on the hard doleritic rocks near the summit, where *Grimmia incurva* abounds, even though on a national scale it is the rarest bryophyte known from Titterstone. *G. donniana* also grows on the hill, and indeed both these species have been found on Brown Clee to the north. On the other hand, the minerals available in rocks on the Clee hills differ significantly from those of the Long Mynd, for *G. incurva* has never been found on the Mynd and *G. donniana* only twice, while conversely *Grimmia montana* is known from a number of sites on the Mynd but remains unknown on the Clees. Similarly, *Hedwigia stellata* has only once been found on the Clee Hills, even though their floras are calcifuge. Evidently the dolerite on Titterstone is unsuitable for *Hedwigia*.

As with lichens, calcareous or basic substrates support brightly coloured species - the terra-cotta tints of *Bryoerythrophyllum recurvirostrum* and *Schistidium apocarpum* s.l., the yellows of *Barbular*, *Trichostomums*, *Tortellas* and *Ctenidium*, and vivid green of *Encalyptas* or *Gymnostomums* brighten basic or calcareous rocks and mortared walls, whereas the subdued green and brown hues of *Grimmias*, *Racomitriums*, *Marsupellas* and *Andreaeas* on Clee's slopes attest acidity. *Andreaea rupestris* and *A. rothii* both grow on Titterstone (the latter sparingly). *Racomitrium aquaticum*, *R. elongatum*, *R. ericoides* and *R. sudeticum* grow on Titterstone Clee, and *R. aquaticum* occurs on boulders on Hoar Edge. Of liverworts amongst the scree, *Gymnomitrium obtusum* is notable this far south and east in Britain. *Barbilophozia floerkei* abounds, with *B. attenuata* in lesser quantity, and even less *B. hatcheri*, *Lophozia bicrenata*, *L. sudetica* and *Tritomaria quinquedentata*.

Further down the eastern flanks, the Border Bryologists found *Hyocomium armoricum* in quantity by the stream above **Cleeton St. Mary** (SO 6078) in 1999 and 2000, along with *Hygrohypnum luridum* and *Brachythecium plumosum*. *Ptilidium pulcherrimum*, *Lophozia sudetica*, *Lejeunea lamacerina*, *Trichocolea tomentella* and *Seligeria recurvata* add variety in the shelter of the dingle. The *Seligeria* grows on sandstone, and indicates some calcareous influence, while plants such as *Scorpidium (Drepanocladus) cossonii* in flushes on the sheepwalks nearby also betray more base-rich conditions. *Nardia geoscyphus* thrives on the well-drained top of a grassy dyke, while *Leptodontium flexifolium*, *Heterocladium heteropterum* and *Plagiomnium cuspidatum* occur sparingly on the sheepwalks. Thomas Laflin recorded *Sphagnum compactum* and *S. tenellum* here in 1967.

To explore the eastern flanks of Titterstone Clee Hill, park by the lane just west of Cleeton St. Mary (SO 607787). For the summit screes, park in the abandoned quarry at SO 594776.

As at Wyre, discoveries by the legends of yesteryear lure the inquisitive to Titterstone in the hope of refinding their plants. Augustin Ley (1842-1911; see <http://britishbryologicalsociety.org.uk/>) came up from Herefordshire in May 1893 and found *Tetraplodon mnioides*, which Duncan also saw in 1902, and it was still there exactly 100 years later. Duncan also found *Rhabdoweisia crispata*, and this moss too still lives among boulders in the scree on the north-west flank. However, *Hygrohypnum eugyrium* and *Pohlia cruda* have not been seen since Duncan found them in 1904. Do these mosses still live on the hill?

The Cinclidotus of the River Teme at Ludlow (SO 5174)

Another botanist of a century ago, Arthur William Weyman (1860-1935; see <http://britishbryologicalsociety.org.uk/>), a solicitor of Ludlow, younger brother to Henry Thomas (who wrote *Ludlow in Bygone Days*) and Stanley John (the popular historical novelist), found *Hamatocaulis vernicosus* and *Blindia acuta* on Titterstone late in the 19th century. Weyman, though, is remembered more for his discovery of the rare aquatic moss *Cinclidotus riparius*, new to Britain in the River Teme at Ludlow, where it grows to this day in some abundance. Weyman first found his moss in 1891, and described it in the *Journal of Botany* that year. *C. riparius* differs from *C. fontinaloides* in being tinged black, but is otherwise very similar to its congener - so similar, indeed, that for a long time *C. riparius* was reduced to varietal status. A note accompanying the specimen at Shrewsbury Museum indicates that H.N. Dixon (<http://britishbryologicalsociety.org.uk/> the leading British muscologist in the early 20th century) was not convinced that *C. riparius* was sufficiently distinct from *C. fontinaloides* to merit specific status. This view prevailed until 1998, when it was realized that the two species can after all be distinguished by differences in thin sections of the leaf margins and a few other subtle differences, whereupon *C. riparius* was reinstated as a species, so enabling Weyman to rest easy in his grave. Weyman, though, was no one-moss wonder, for he is also credited with first discovering the rare *Bryum weigeli* on the Long Mynd in 1893 (see below).

The best time to find *C. riparius* is when the river is low, not only for one's own safety, but also because *C. riparius* usually grows in a zone lower than *C. fontinaloides*, and is well submerged for most of the year. One can readily gain access to the river from the car park of the veterinary surgery at Case Mill (SO 518742). There *C. riparius* grows on rocks and concrete in and by the river in company with *C. fontinaloides* and *Dialytrichia mucronata*. *C. riparius* also forms a pure sward on flagstones in the riverbed by Ludford Bridge.

Rock of Woolbury (SO 3179)

The Border Bryologists visited the Clun valley on a mild winter's day in 1995 to explore this long-abandoned quarry of Silurian shales, now a sequestered enclave with

bryophytes draped over bough and buttress - an Arcadian amphitheatre embowered with oaks and further sheltered from wind by the lie of rocks.

Plagiochila spinulosa thrives in the shade, with *Seligeria recurvata* and patches of *Tritomaria quinqueidentata* nearby. *Racomitrium elongatum* attests acidity, but makes an ecological statement at variance with evidence from the *Seligeria*, as well as *Lejeunea cavifolia*, *Porella platyphylla*, *Bartramia pomiformis*, *Ctenidium molluscum*, *Fissidens dubius*, *Neckera complanata*, *Tortella tortuosa* and *Trichostomum brachydontium*. *Barbilophozia barbata* and *Archidium alternifolium* grow on the quarry's floor, and *Riccia subbifurca* on shallow soil over a buttress of south-facing rock. *Scleropodium tourettii* finds a drier spot too, but a forestry track nearby remains damp enough for *Oligotrichum hercynicum* to have infiltrated east from Wales. *Atrichum crispum* and *Orthotrichum striatum* also have western proclivities.

Duncan came here in 1913, finding the *Plagiochila*, *Tritomaria*, and *Scleropodium*, as well as *Antitrichia curtispindula* (which has probably gone now), *Pohlia cruda* and *Weissia controversa* var. *crispata*.

When visiting the quarry, park opposite the entrance to a forestry plantation half a mile to the south at SO 318786 and walk up the lane.

Wenlock Edge (SO 4483 to SJ 6000)

Running north-east from Craven Arms to Much Wenlock, calcareous soils and Silurian Wenlock Limestone offer a bryologist many sites along the length of the Edge to search for calcicoles in a mixture of deciduous woodland, abandoned quarries and pasture.

Starting at the southern end, a privately owned quarry in **Rotting Wood** (SO 4480) on Whettleton Hill has *Didymodon ferrugineus*, *D. tophaceus*, *Gyroweisia tenuis* and *Microbryum curvicolle*, with *Dicranum tauricum* as an epiphyte in Nortoncamp Wood nearby. Walk up to the wood from the car park by Stokesay Castle at SO 435817.

A mile north, **Halford Quarry** (SO 4483) at the brow of the hill offers *Aloina aloides* var. *aloides*, *Campylophyllum calcareum*, *Ephemerum recurvifolium*, *Microbryum rectum*, *Pottia starkeana* (*Microbryum starckeanum*), *Scleropodium cespitans* and *Tortula modica*. Park at Halford (SO 436833) and walk up the lane.

The British Bryological Society visited **Wolverton** (or **Edge**) **Wood** (SO 4787) on their Spring Meeting at Ludlow in 1979, finding *Apometzgeria pubescens*, *Ptilidium pulcherrimum* and *Dicranum tauricum*. The Border Bryologists explored **Harton Wood** (SO 4887) across the lane in 1995, where abandoned quarry-workings and loamy banks held *Rhynchostegiella pumila* (*Eurhynchium pumilum*), *Oxyrrhynchium* (*Eurhynchium*) *schleicheri*, *Fissidens incurvus* with its distinctive inclined capsules, and *Rhynchostegium murale*. There is a car park at SO 479876. *Amblystegium confervoides*, *Eurhynchium striatulum*, *Cololejeunea rossettiana* and *Metzgeria conjugata* grow near the base of **Ippikin's Rock** (SO 5796). The Border Bryologists

also met half a mile north-east of **Stretton Westwood** (SO 5998) in 1995 to look at abandoned quarries on either side of the road, finding much *Aloina aloides* var. *aloides* and *Homalothecium lutescens*; also *Brachythecium glareosum*, *Campyliadelphus chrysophyllus*, *Ditrichum gracile*, *Fissidens dubius* and *Leucodon sciuroides*. Other calcicoles include *Didymodon acutus*, *D. ferrugineus*, *Ephemerum recurvirostrum*, *Eucladium verticillatum*, *Gyroweisia tenuis*, *Microbryum rectum*, *Pottia davalliana*, *Rhynchostegium murale*, *Taxiphyllum wissgrillii* and *Leiocolea turbinata*.

A car park at SO 614997 by the B4371 road from Much Wenlock to Church Stretton is a good place from which to explore the northern end of Wenlock Edge at **Blakeway** and **Harley Bank**. The car park itself is a disused quarry, where careful searching may turn up a range of calcicoles: *Entodon concinnus*, *Rhynchostegium murale*, *Thuidium delicatulum*, *Trichostomum brachydontium* and *T. crispulum*. In 2000, the Border Bryologists crossed an ancient track called Blakeway Hollow, and continued up the slope to abandoned quarries in a field behind a house (SO 608999), where bryological entertainment came in the forms of *Ephemerum recurvifolium*, *Fissidens incurvus*, *Microbryum rectum* and *Weissia longifolia* var. *longifolia*. Passing through a gate in the northern corner of this field into **Harley Wood** (SJ 607001) and **Blakeway Coppice** (SO 5998 to 6099), one may add to the list of calcicoles with *Campyliadelphus chrysophyllus*, *Campylophyllum calcareum*, *Taxiphyllum wissgrillii*, *Leiocolea badensis* and *L. turbinata*. A little to the south, *Amblystegium confervoides* grows in Blakeway Coppice, with more *Ephemerum recurvifolium* on a bank by the path on the ridge. In 1995, an arable field nearby had also yielded an impressive suite of ephemeral calcicoles: *Pottia davalliana* (*Microbryum davallianum*), *M. rectum*, *Tortula lanceola* and *T. modica*. Winter is the best season to search for most of these ephemeral species, for they become more visible after vascular plants have died back. Moreover, ephemeral bryophytes die away themselves in the drier months of summer, when no trace of their presence may be found.

Hopesay Hill (SO 3983)

Hopesay Hill came into the National Trust's possession in 1952, saving it from post-war excesses of agricultural development, and preserving an ecological time-warp of rough grazing around springs and flushes, home to a variety of species. Most notable is the very rare leafy liverwort *Jamesoniella undulifolia*, looking disconcertingly like *Odontoschisma sphagni* as it creeps over *Sphagnum capillifolium* near the edge of one flush. Other liverworts include *Cephaloziella hampeana*, *Riccardia chamedryfolia* and *Trichocolea tomentella*, along with the moss *Scorpidium (Drepanocladus) cossonii* which is scarce in Shropshire. Thomas Laflin found *Philonotis arnellii* on the common in 1969. Park at SO 394835 or 401846.

The Long Mynd (SO 49)

Whereas Wenlock Edge is largely wooded and made of calcareous sedimentary Silurian rock, the Long Mynd is a seven-mile-long whaleback of tightly folded Precambrian shales, mudstones, sandstones and igneous rocks, sparingly covered by soils poor in minerals, and topped by a turf of bent-grasses, fescues and other

calcifuges which are relentlessly mown by countless sheep and rabbits. Much of it is owned and managed by the National Trust, and access is straightforward.

Schistostega pennata is uncommon on a national scale but frequent in abandoned rabbit burrows on the Mynd, where well-drained, crumbling, acidic soil suits this moss. The rabbit's recent resurgence may benefit *Schistostega*, and if you put your arm down the burrows on some banks you stand a good chance of collecting this refulgent recluse. Much of the Mynd is acidic, but outcrops of more basic rock do occur, and sport a richer bryoflora. The same is true of flushes on the flanks, where water enriched with oxygenated salts and minerals seeps past leaves and rootlets of plants, constantly replenishing their supply of nutrients, and washing wastes away. The fat black shoots of *Scorpidium scorpioides*, for example, sprawl over wet ground in several places, while bog-mosses flourish in more acidic flushes: *Sphagnum angustifolium*, *S. compactum*, *S. girgensohnii*, *S. quinquefarium*, *S. russowii*, *S. tenellum* and *S. teres*.

These variations in conditions and habitats keep botanists continually absorbed, and over the years many bryologists have visited the Mynd. In the late 19th century, Weyman discovered *Bryum weigelii* in by far its most southerly British site. Rare in montane flushes in North Wales and northern England, and only locally frequent in the Scottish Highlands, the delicate pinkish tinge of this beautiful *Bryum*, with its decurrent leaf-bases is a chief attraction for discerning cryptogamists who visit Shropshire. The Long Mynd's other rare moss, *Grimmia montana*, grows on rocks in The Batch (SO 4496), Carding Mill Valley (SO 4494), Townbrook Valley (SO 4394) and Ashes Hollow (SO 4393), and Duncan found it in Callow Hollow (SO 4292) in 1910. *G. montana* also grows on the Stiperstones, Earl's Hill, and the Wrekin (see below).

Rhabdoweisia fugax, another moss of acidic rocks, was found in Light Spout Hollow (SO 4395) in 1891 by a relative of Richard de Gylpyn Benson (1856-1904; see <http://britishbryologicalsociety.org.uk/>), a retired solicitor who lived at Pulverbatch and found many mosses on the Mynd in the late 19th century. He wrote a paper on Shropshire mosses for the *Journal of Botany* in 1893. Benson helped and was helped by William Phillips Hamilton (1840-1910; see <http://britishbryologicalsociety.org.uk/>) of Shrewsbury, a nephew of the tailor, botanist and mycologist William Phillips (1822-1905).

During the second half of the 20th century, several botanists added to the bryoflora known from the Long Mynd, starting in 1960 when the strange, leafless annual moss *Buxbaumia aphylla* was found in Ashes Hollow. Indeed, the Mynd is sufficiently large and varied that fresh discoveries have continued to be made ever since. Each valley (or batch) has its own characteristic features, with little islands of base-enriched rocks and flushes among a sea of acidic habitats.

Starting at the north end of the Mynd, **Hawkham Hollow** (SO 4397) has a small area of base-rich rock with *Tortella tortuosa* by the stream at SO 431974, and *Sphagnum teres* in wet soil nearby.

Hawkham Hollow drops away north-east to the steep-sided **Smethcott (Betchcott) Dingle** (SO 4598/4599), more wooded and therefore shaded and continuously humid

than other valleys on the Mynd, enabling *Hygroamblystegium* (*Amblystegium*) *fluviatile*, *Heterocladium heteropterum* and *H. flaccidum*, *Rhynchostegiella teneriffae*, *Lejeunea lamacerina*, *Lophocolea fragrans*, *Metzgeria conjugata* and *Scapania nemorea* to thrive where acidic rocks outcrop by small gorges and waterfalls along the course of the stream. Pockets of more basic substrate favour *Fissidens celticus*, *F. dubius*, *F. pusillus*, *Hookeria lucens* and *Lejeunea cavifolia*. *Microlejeunea ulicina* grows on Ash, and *Plagiothecium laetum* on tree-stumps. Park in the village of Picklescott (SO 436995) or at Smethcott Church (SO 449994).

Working clockwise round on to the eastern flanks of the hill, start from Plush Hill (SO 452964) or the laneside at 457970 to explore **Gogbatch** (SO 4596), which benefits as much as any of the batches from basic influence, with *Campyliadelphus elodes*, *Hamatocaulis vernicosus*, *Scorpidium* (*Drepanocladus*) *cossonii*, *Sphagnum russowii*, *S. tenellum*, *Thuidium delicatulum*, and *Leiocolea bantriensis* in wet ground at the bottom of the batch. *Barbilophozia hatcheri* also grows in Gogbatch; *Hedwigia stellata* and *Grimmia donniana* may be found on acidic rock, and *Schistostega pennata* lurks in rabbit burrows. Thomas Laflin found *Nardia geoscyphus* and *Rhabdoweisia fugax* nearby in 1969. **Plush Hill** at the top of the batch has *Calliergon giganteum* in wet ground and *Heterocladium heteropterum* and *Dicranum montanum* on rock, while *D. fuscescens* may be sought at **Duckley Nap** (SO 4396) to the west. Basic flushes in the upper reaches of **Colliersford Gutter** above Wildmoor Pool (SO 4296) have *Hamatocaulis vernicosus*.

Dropping back down the eastern flank of the Mynd, the next valley south of Gogbatch is **The Batch** (SO 4495). First prize here is *Grimmia montana* on rocks near the confluence of Jonathan's Hollow and Long Batch, with the liverworts *Metzgeria conjugata* and *Porella arboris-vitae* on rocks by the stream in Long Batch. As in Gogbatch, *Thuidium delicatulum* may be found in wet ground, a more three-dimensional moss than its commoner congener *T. tamariscinum*. Park at SO 456955.

Next south is **Carding Mill Valley** (SO 4394 and 4395), with a mixture of base-rich flushes containing *Scorpidium scorpioides*, *Palustriella commutata* and *Scorpidium* (*Drepanocladus*) *revolvens* and acidic flushes (*Bryum weigeli*, *Sphagnum auriculatum*, *S. capillifolium*, *S. cuspidatum*, *S. palustre*, *S. recurvum* and *S. squarrosum*). Near the bottom of Light Spout Hollow, rock and soil on a steep, north-facing bank by the stream are wet enough for *Blindia acuta* and *Anomobryum julaceum* var. *julaceum* (with var. *concinatum* further upstream near Light Spout waterfall), and one spot is sufficiently base-rich for *Leiocolea bantriensis*. *Rhabdoweisia fugax* was found in Light Spout Hollow in 1891, *Bartramia ithyphylla* has lived on rock below Light Spout waterfall since Benson's time, and *Pterogonium gracile* also occurs. Carding Mill Valley is the only known site on the Mynd for *Dicranella subulata*, and Thomas Laflin made the only Salopian record of *Cephaloziella stellulifera* to the north of The Burway (SO 4494) in 1960. You pay to park at SO 446944 or 441949.

Just the other side of Burway Hill, **Townbrook Valley** (SO 4393 and 4394) also has base-rich flushes with *Philonotis calcarea*, and *P. arnellii* on shallow soil overlying south-facing rock at SO 446938. *Grimmia montana* abounds on acidic, south-facing rock, and *Barbilophozia hatcheri* has also been seen. Further up the valley, *Frullania*

fragilifolia, *Bartramia ithyphylla* and *Tortula subulata* grow on north-facing rocks by the stream. Park at SO 449936 or by the viewpoint at 437943.

Grimmia montana also grows on south-facing rocks in **Ashes Hollow** (SO 4293, 4393 and 4394), the next batch south of Townbrook. *Leiocolea alpestris* grows on damp rocks, and calcareous flushes contain *Philonotis calcarea*, *Leiocolea bantriensis* and *Trichocolea tomentella*. On the plateau at the top of the valley a base-enriched spring at SO 418943 has *Sphagnum contortum* and several other calcicoles, including *Hamatocaulis vernicosus*, as well as *Bryum weigelii*. Park in Little Stretton and walk up the valley, or descend from near Boiling Well (SO 426945 or 429943).

Minton Batch (SO 4191) has fairly plentiful *Hedwigia stellata* on dry outcrops of rock, and a series of small springs flush over rocks on the lower slopes of the stream's northern bank, creating more base-enriched conditions suitable for *Trichostomum brachydontium* and *Weissia brachycarpa* var. *obliqua*. Flushed soil by rivulets supports *Scorpidium cossonii*, *S. scorpioides* and *Thuidium delicatulum*.

Callow Hollow (SO 4291/4292) is best explored either after parking by the lane to the south of Pole Cottage (SO 413937) and dropping down into the valley, or by parking beside the lane (SO 433911) north of Minton and walking up the batch. Three species of *Philonotis* - *P. caespitosa*, *P. calcarea* and *P. fontana* - grow in flushes, along with *Rhizomnium pseudopunctatum*, *Scorpidium scorpioides*, *Leiocolea bantriensis* and *Trichocolea tomentella*. *Bartramia ithyphylla*, *Scorpidium cossonii* and *Thuidium delicatulum* also occur, as well as *Tortella bambergeri* at its only known site in Shropshire. Duncan found *Bartramia ithyphylla*, *Grimmia montana*, *Gymnostomum aeruginosum* and *Plagiochila spinulosa* in 1910, and *Pterogonium gracile* was recorded on boulders in a wood in 1957.

Despite having been visited by bryologists more frequently than any other district in Shropshire, the Long Mynd very likely still has secrets to yield, particularly from the smaller, infrequently explored batches. Park at SO 421954 to explore **Bilbatch** (SO 4195 with *Bryum weigelii*) and **Catbatch** (SO 4196) in the north, or in the south leave your car at SO 413894 to try **Nutbatch** (SO 4189, with *Diplophyllum obtusifolium*, *Schistostega pennata* and *Lophozia bicrenata* on a soil bank by the forestry track) and **Wooler's Batch** (SO 4089), with *Hedwigia stellata*, *Schistostega pennata* and *Riccardia palmata*. Or try **Pike Hollow** (SO 3988) for *Grimmia montana*, *Hedwigia stellata* and *Pterogonium gracile*.

Stiperstones (SO 39/SJ 30)

A mile or so north-west of the Long Mynd, acidic quartzite rests unconformably on Cambrian shales in the upland Stiperstones National Nature Reserve and Site of Special Scientific Interest. Bryologists take interest in the boulders, outcrops of rock, and flushes amongst heather and grass. Deciduous woodland and abandoned mines add variety on the lower slopes.

The Stiperstones share many common and a few uncommon bryophytes with the Long Mynd. *Grimmia montana* occurs in **Mytton Dingle** (SJ 3600), and Benson found *Rhabdoweisia fugax* at the Devil's Chair (SO 3699) and *Splachnum ampullaceum* in 1892. No *Splachnum* has been reported from Shropshire for many

years, but *Tetraplodon mnioides* grows with *Bazzania trilobata* in declivities between boulders in scree on the east side of Stiperstones ridge near **Shepherd's Rock** (SJ 3700). The bog-mosses *Sphagnum quinquefarium*, *S. russowii* and *S. teres* occur, and the beautifully symmetrical leafy liverwort *Lepidozia cupressina* lay undiscovered until 2002 between boulders in scree near Manstone Rock (SO 3698). Park at SO 369977 for the southern end.

A cluster of other interesting sites ring the Stiperstones. Circling clockwise from the south, a rocky bank south-west of **Ritton Castle** (SO 3497) has *Barbilophozia atlantica* (along with *B. attenuata* and *B. floerkei*), *Dicranum scottianum* grows on **Nipstone Rock** (SO 3597), with *Scapania gracilis* on and *Leucobryum juniperoideum* between boulders at **The Rock** (SO 3596). *Bazzania trilobata* and *Lepidozia cupressina* grow in one or two of the more humid declivities between boulders in the scree on **Black Rhadley Hill** (SO 3495), which is also Shropshire's only certainly known locality for *Scapania scandica*. Park at SO 347961.

Lawns of *Sphagnum* in the wet wood around **Shelve Pool** (SO 3397) contain *S. capillifolium*, *S. contortum*, *S. fallax*, *S. fimbriatum*, *S. palustre* and *S. squarrosum* along with *Calliargon cordifolium* and *Warnstorfia fluitans*. Leave your car at The Bog (SO 357978).

To the west, **Stapeley Hill** (SO 3199) is made of acidic igneous rock flanked by Ordovician shales to the north-west and south-east. But calcareous flushes on the north side of the hill have *Scorpidium (Drepanocladus) revolvens*, *Palustriella commutata* and *Pellia endiviifolia*; a small area of calcareous rock and stone around an abandoned mine on the north-west flank carries a varied bryoflora, while acidic cliff and scree nearby are home to *Andreaea rothii* ssp. *falcata*, *A. rupestris*, *Racomitrium affine* and *R. sudeticum*. Park at SO 314980.

A stream cuts through Ordovician mudstones and siltstones intruded by acidic tuffs to form an oak-clad gorge at the Shropshire Wildlife Trust's reserve in **Hope Valley** (SJ 3501), where the stream's banks have yet to be fully explored for bryophytes. There is a car park at SJ 350017.

A small area of base-rich rock in **Crownsnest Dingle** (SJ 3701) supports *Tortella bambergeri* and other calcicoles. Spoil-heaps and mortared walls around abandoned lead-mines at **The Bog** (SO 357978), **Pennerley** (SO 354988) and **Snailbeach** (SJ 373023) provide for a rewarding variety of ruderals and calcicoles. There are old records of *Loeskeobryum (Hylocomium) brevirostre* from the mineral railway at Snailbeach, and of *Polytrichum strictum* and *Plagiothecium latebricola* from nearby Lordshill. Park at SJ 373023.

Long ago, Benson found *Sphagnum pulchrum* on **Wilderley Hill** (SJ 4301), as well as *Hamatocaulis vernicosus* there and on the neighbouring **Cothercott Hill** (SJ 4100).

Earl's Hill, Pontesford Hill and Oaks Wood (SJ 4004/4005 and 4104/4105)

The best place to park when visiting these three sites is at the forestry entrance (SJ 409056) at the north end of Pontesford Hill, which is leased by Forest Enterprise.

From Habberley Brook on the eastern edge of Shropshire Wildlife Trust's Reserve, broad-leaved woodland, scrub and grassland give way at the top of Earl's Hill to Precambrian rock and scree, mainly of volcanic rhyolites and tuffs, which provide another locality for *Grimmia montana*. *Targionia hypophylla* also occurs on Earl's Hill, its only known extant site in the county. At the top of Oaks Wood, *Barbilophozia attenuata* and *Andreaea rupestris* var. *rupestris* grow on a large exposure of conglomerate, while the wood itself is damp enough for *Leucobryum album*, *L. juniperoideum* and *Bazzania trilobata*. The latter also grows on Pontesford Hill, while Earl's Hill has *Cephalozia lunulifolia*, *Lejeunea lamacerina* and *Nowellia curvifolia*, and the moss *Philonotis arnellii*.

Ironbridge Gorge (SJ 60)

The wooded valley of Coalbrookdale is a sheltered, base-rich contrast to the wind-blown, mineral-poor uplands of the Stiperstones and Long Mynd. Its outcrops of Silurian Wenlock limestone and shale resemble Wenlock Edge, but many of those in Ironbridge Gorge face north, so are more shaded and less prone to desiccation.

The gorge is also more geologically varied than Wenlock Edge. **Tick Wood** (SJ 6403) and **Benthall Edge Wood** (SJ 6603) lie on Wenlock and Ludlow Silurian limestone and shales. These are unconformably overlain by Carboniferous sandstones and shales at the eastern end of Benthall Edge Wood, while in **Lydebrook** and **Loamhole Dingles** (SJ 6605/6606) Carboniferous Coal Measures outcrop with igneous basalt. Moreover, in bygone times mining and quarrying for lime, coal, clay, iron and tar, and the construction of inclines, tramways, railway lines, canals, factories and dwellings have scarred the entire district.

Ash, wych elm, wild cherry, sessile oak and small-leaved lime thrive on the base-rich, calcareous soil, with an equally varied bryoflora spreading on to rock and stones. The consistently high humidity enables plants such as *Mylia anomala* to grow on Benthall Edge, and in 1913 Duncan found *Dicranodontium denudatum* and *Cephalozia lunulifolia* in **Coalbrookdale** (SJ 6604) and *Blepharostoma trichophyllum* in Loamhole Dingle. Loamhole Dingle is also home to *Dicranum montanum*, *D. tauricum*, *Didymodon ferrugineus*, *D. spadiceus*, *Heterocladium heteropterum* var. *heteropterum*, *Hookeria lucens*, and is Shropshire's only known site for *Tetrodontium brownianum*. Of liverworts, *Cephalozia lunulifolia* and *C. bicuspidata* prefer acidic sandstone, whereas *Leiocolea turbinata* grows where moisture seeping down the slope enriches the rock's surface with nutrients. *Riccardia multifida* also likes saturated surfaces. *Leucobryum juniperoideum*, *Dicranum montanum* and *D. tauricum* also grow in Lydebrook dingle.

In 1992, members of the British Bryological Society found *Brachythecium salebrosum* at **Coalport** (SJ 6902) and **Blists Hill** (SJ 6903), and the rare mosses *Leptobarbula berica* and *Pottiopsis caespitosa* in a small, unshaded, calcareous area of Benthall Edge Wood. In 2005 the *Pottiopsis* was frequent in **Pattins Hill Quarry** (SJ 665035) and also on **Lincoln Hill** (SJ 670038) on the north side of the river, while the *Leptobarbula* turned up on a stone in woodland just east of Pattins Hill Quarry. Pattins Hill Quarry also contains the calcicoles *Didymodon ferrugineus*, *Ditrichum*

gracile, *Entodon concinnus*, *Weissia rutilans* and *Plagiochila britannica*, and *Taxiphyllum wissgrillii* grows in the wood immediately east of the quarry. *Bryum alpinum* and *Pohlia bulbifera* are more surprising members of Benthall's bryoflora, as they do not relish lime. Duncan found *Aloina ambigua* at **Ironbridge** (SJ 6703) in 1913, and F.E. Milsom recorded the epiphyte *Pylaisia polyantha* by the road from Ironbridge to Much Wenlock in 1939.

For Benthall Edge Wood, park at SJ 673033 and walk westwards along the disused railway. Ironbridge Gorge is popular with tourists, so all the museums have car parks.

The Ercall and Wrekin (SJ 6409 to 6208)

These two hills are Sites of Special Scientific Interest, and much of The Ercall is also a reserve of the Shropshire Wildlife Trust. There are car parks at SJ 637093, 644100 and 646103.

The Ercall is mainly composed of Precambrian acidic igneous rock, formerly quarried, unconformably overlain by equally acidic Cambrian quartzite and more base-rich Cambrian gravel and conglomerate, while The Wrekin is entirely made of Precambrian volcanic lavas and ashes. Long-established dry and damp deciduous woodland covers much of the two hills, with more varied, better insulated habitats, substrates, and bryophytes in the quarries. *Plagiothecium laetum* occurs in the damper woodland on Ercall's eastern flank, and *Dicranum tauricum* is fairly frequent on tree-bark. *Cephaloziella hampeana* grows on the soil of rock-ledges in the quarries, with common calcicoles such as *Aloina aloides*, *Didymodon topiaceus* and *Trichostomum brachydontium* on banks of more base-rich soil.

Several old records of vascular plants and bryophytes refer to lime-loving species which have not been seen for many years. Perhaps all calcareous material has been quarried away, or was imported for processing quarried material. However that may be, the Reverend Edward Williams (1762-1833; see <http://britishbryologicalsociety.org.uk/>) of Shrewsbury found *Aloina rigida* at the northern end of The Wrekin, and Robert Anslow (1842-1893), a brewery agent and newspaper-editor from Wellington recorded *Tomentypnum nitens* on The Wrekin, and *Protobryum bryoides* (*Tortula protobryoides*) on The Ercall in 1865. At the end of the 19th century Benson recorded *Grimmia montana* on rocks near the top of The Wrekin and this moss is still present there, with *Oreoweisia* (*Cynodontium*) *bruntonii*, *Dicranoweisia cirrata* and *Rhabdoweisia crispata* nearby. Hamilton also found *Bryum alpinum* at the end of the 19th century. The Wrekin's liverworts include *Barbilophozia attenuata*, *B. floerkei*, *Gymnocolea inflata*, *Lophozia bicrenata* and *Ptilidium ciliare*. Hamilton found *Tritomaria quinquedentata* in the 19th century.

Loton Park (SJ 3513, 3514 and 3613)

The ground at Loton Park is notably calcareous in places. One outcrop within the deer park supports *Grimmia orbicularis* alongside its much commoner (and very similar) congener *G. pulvinata*, with *Pterygoneurum ovatum* at its only known extant site in Shropshire in shallow soil on the lip of the exposure, and also *Didymodon*

acutus, *Microbryum rectum* and *Protobryum bryoides*. Other calcicoles include *Ditrichum gracile*, *Encalypta streptocarpa* and *E. vulgaris*, *Fissidens incurvus*, *Homalothecium lutescens*, *Pottia davalliana*, *Pseudocrossidium revolutum*, *Tortula lanceola*, *T. modica* and *T. subulata*, *Thuidium assimile* and *T. delicatulum* and *Weissia brachycarpa* var. *obliqua*. *Drepanocladus polygamus* (and *D. aduncus*) grow on damp ground beside a pool.

Old quarry workings just outside the deer park have reverted to secondary woodland, with *Hymenostylium recurvirostrum* at its only known site in Shropshire.

Park by the village hall (SJ 358143) at the side of the road through Alberbury. Please note, however, that although a public right of way passes through the park, the landowner's permission is required and necessary if you wish to explore off the right of way.

The North Shropshire Mosses (SJ 43 and 53)

The Mosses lie in the north of the county, east of Ellesmere: **Whixall** (SJ 4835 and 4936), **Bettisfield** (SJ 4835), **Wem** (SJ 4734), **Clarepool** (SJ 4334), **Whattal** (SJ 4331) and **Brown** (SJ 5639). At Whixall Moss - the most bryodiverse, and a National Nature Reserve - liverworts and bog-mosses (*Sphagnum* species) predominate on the peat, with *Calypogeia neesiana*, *C. sphagnicola*, *Cephalozia connivens*, *C. macrostachya*, *Cladopodiella fluitans*, the subterranean *Cryptothallus mirabilis* (under *Sphagnum* in an alder-birch wood at Whixall in 1968), *Kurzia pauciflora*, *Mylia anomala*, *M. taylorii*, *Odontoschisma sphagni* and *Riccardia latifrons* the pick of the liverworts. *Sphagnum* species include *S. angustifolium*, *S. compactum*, *S. magellanicum*, *S. pulchrum* and *S. tenellum*. *S. austinii* grew here long ago, having been found preserved in peat. Of other mosses at Whixall, the rare *Dicranum bergeri* is notable, and also occurs at Clarepool along with *D. polysetum*.

You need a permit from English Nature to go on Whixall Moss; park at Moss Cottages (SJ 503364) or Morris's Bridge (SJ 493355). For Bettisfield Moss, park at SJ 482348. For Wem Moss, park in Northwood (SJ 465333) and walk north down the track from the eastern edge of the village, across a footbridge, past some trees, and on to the Moss.

Brown Moss is noted for the uncommon liverworts *Fossombronia foveolata*, *F. incurva*, and *Riccia canaliculata* on seasonally exposed soil by the pools, and *Ricciocarpos natans* in the water itself. There are car parks at SJ 564395 and 565394.

The Oswestry Hills (SJ 22)

Llanymynech and **Llyncllys Hills** (SJ 2622 and 2723) are Sites of Special Scientific Interest and Shropshire Wildlife Trust reserves. For Llanymynech Rocks, use the car park (SJ 271219) at the west end of Underhill Lane, off the A483 at the south end of Pant village. For Llyncllys Hill, park in the layby just west of the crossroads (SJ 281241) and walk up Turner's Lane.

Llynclys and Llanymynech are two of a cluster of hills three or four miles south-west of Oswestry which, together with Wenlock Edge and Coalbrookdale, are Shropshire's premier places for calcicoles. However, unlike Wenlock and Coalbrookdale, the hills near Oswestry are mainly of Carboniferous Limestone, with bands of shale and other sediments. The rock also contains magnesium, so has been much quarried for burning as agricultural lime. Copper, lead and zinc have also been mined here. Scree below the cliffs, calcareous grassland, and spoil-heaps in the quarries provide a range of alluring habitats, but the district has been little explored for bryophytes, save for brief incursions to Llanymynech Hill by the British Bryological Society on April 7th 1960, April 5th 1975, and April 9th 1992. On these occasions members spent most of their time on the Montgomeryshire side of the county boundary, finding many uncommon mosses, including *Bryum canariense* var. *provinciale*, *Didymodon acutus*, *Entosthodon (Funaria) muhlenbergii*, *Entosthodon (Funaria) pulchella*, *Pottia davalliana (Microbryum davallianum)*, *Microbryum rectum*, *Pleurochaete squarrosa*, *Seligeria calcarea*, *S. donniana*, *Thuidium assimile (T. philibertii)* and *Protobryum bryoides (Tortula protobryoides)*. Some of these species have yet to be found on the English side of Llanymynech, but *Didymodon acutus* and *Pottia davalliana* are known from privately owned land at Llynclys, along with *Weissia longifolia* var. *angustifolia*. *Didymodon acutus* also occurs on Llanymynech Golf Course, just inside Montgomeryshire.

Of liverworts from **Blodwell Rock** and **Wood** (SJ 2623) on the Shropshire side of Llanymynech, the calcicoles *Apometzgeria pubescens*, *Leiocolea collaris*, *Marchesinia mackaii*, *Porella arboris-vitae* and *Scapania aspera* are worthy of mention, and the rarest hepatic is *Scapania cuspiduligera*, found by the path on Offa's Dyke at the top of Blodwell Rocks on the north-west side of Llanymynech Hill. The mosses *Bryum canariense*, *Fissidens limbatus* and *Pleurochaete squarrosa* also grow at Blodwell.

Of other mosses, J. Appleyard recorded *Gymnostomum calcareum* on Llanymynech in 1960, but this taxon has subsequently been split into several species, and in the absence of a voucher the plant will have to be re-found for an accurate determination to be made. Other calcicoles which the BBS reported from the Shropshire side of the hill in 1975 include *Entosthodon (Funaria) muhlenbergii* and *Pleurochaete squarrosa*, the latter on the floor of an old quarry. *Tortula lanceola* and *Weissia controversa* var. *densifolia* have also been reported. An old limestone wall on Llynclys Hill has *Thuidium delicatulum* and *Scapania aspera*.

The BBS visited **Sweeney Mountain** (SJ 2725) in 1960, finding *Gyroweisia tenuis*, *Leucodon sciuroides*, *Tortula marginata* and the liverwort *Nardia geoscyphus*. *Bryum pallescens* occurs at **Craig-llwyn** (SJ 2327), with *B. kunzei* (*B. funckii*, or *B. caespiticium* var. *imbricatum*) and *Racomitrium elongatum* at **Moelydd** (SJ 2425).

A south-facing limestone cliff, scree, grassland and wood at **Jones's Rough** (SJ 2424) above Nantmawr contain a fine range of calcicoles, including *Aloina aloides*, *Campylophyllum calcareum*, *Didymodon ferrugineus*, *Ditrichum gracile*, *Fissidens incurvus*, *Pottia starkeana (Microbryum starckeanum)* and *Pleurochaete squarrosa*. Travelling south-west from the road-junction at SJ 258249, take the first turning right

up a narrow lane until it forks. Park at the end of the left-hand fork; Jones's Rough (a Shropshire Wildlife Trust reserve) is at the end of the right-hand fork.

Further exposures of limestone occur on the Shropshire Wildlife Trust's reserve at **Craig Sychtyn** (SJ 232255; park on the verge by a lane at SJ 234263 or by the track at SJ 233261). *Campylophyllum calcareum* and *Weissia controversa* var. *crispata* have been recorded from the reserve. For the SWT reserve at **Dolgoch Quarry** (SJ 277247), park in the lay-by just west of the Llyncllys cross-roads on the A495 and walk north through woodland along an unsurfaced track. The quarry's floor contains much *Ctenidium molluscum* and *Leiocolea turbinata*, and *Campyliadelphus chrysophyllus* and *Ephemerum recurvifolium* are also present.

A little further north, abandoned limestone quarries near **Llawnt** (SJ 2431) hold *Entodon concinnus* and *Fissidens limbatus*. Several other hillsides and quarries around Oswestry remain bryologically unknown, in common with much of the rest of Shropshire.