

Recording mosses and liverworts in Worcestershire

In the first of two articles about bryophytes in Worcestershire, **Tessa Carrick** reveals the history of the bryological exploration in this under-recorded midland county.

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Worcestershire's bryophytes have been under-recorded. A few diligent bryologists have explored the county, but there have also been long periods during which no reliable records have been made.

As with other taxonomic groups, there have been revisions in taxonomy and nomenclature over the decades, and this sometimes causes difficulties with older records. There is currently more rapid change occurring as DNA analysis and other new biochemical and taxonomic techniques make possible better elucidation of affinities.

The 19th century

In 1868, the third edition of Edwin Lees' *The Botany of the Malvern Hills* appeared, with 12 pages listing species that had been recorded, together with Lees' characteristic descriptions and comments. According to Lees, in the 19th century *Hedwigia ciliata* did at that time 'form dense tufts on many of the rocks of the hills', but this may have been the very similar and commoner *H. stellata*, which was not distinguished until much later. Certainly, Lorna Fraser found the rarer *H. ciliata* in reasonable abundance on a rock on the east side of Worcestershire Beacon in 2001. Lees also listed five species of *Racomitrium*—*R. aciculare*, *R. fasciculare*, *R. heterostichum*, *R. lanuginosum* and *R. canescens*. The latter may have been the very similar *R. ericoides*.

From 1854, the Reverend James Hasselgrave Thompson (1811–1889) was incumbent at St Peter's Church, Cradley, near Halesowen, then a place renowned more for its grimy industry than its plants. Thompson had studied botany at Oxford and was well known in the county as 'an enthusiastic botanist' (Jones, 1980). He collected a few bryophytes from around Cradley, but

generally ranged widely across Worcestershire, and even undertook a botanical trip with Edwin Lees to Switzerland. His collection of bryological specimens (dating from 1848 with specimens from the Lickeys and Rockwood, Shelsley, to July 1880 with specimens from Hartlebury Bog) has been deposited in Worcester City Museum. His favourite areas were the whole of the Malvern Hills and the Gullet, the Wyre Forest area, in particular Seckley and Ribbesford woods, and Hartlebury Common, with several visits also being made to the Lickey Hills. Notes attached to Thompson's records indicate a fair amount of exchange of specimens, with some coming from the herbaria of James Eustace Bagnall (1830–1918) of Aston in Birmingham, Dr John Fraser (1820–1909) of Wolverhampton, William Mathews (1828–1901, first Honorary Secretary and Treasurer of the Worcestershire Naturalists' Club), Dr Griffith Hooper Griffiths (ca 1823–1872), Mr Thomas Westcombe (1815–1893) of Worcester, a Mr Stretch and a Miss Green. He sometimes refers to having been accompanied by Lees, Fraser, Mathews and Griffiths. The pattern of Thompson's records suggests that he may have stayed overnight in some locations as he visited the same area on successive days.

Some of the places Thompson visited, such as The Gullet, are still worth visiting for bryophytes, although apparently somewhat depleted in variety since the 19th century. Others, like Hartlebury Common with its bog, yielded a large number of species then, but are now disappointing for bryophytes, partly because the wetter areas have dried and partly because of the intensive use of the common and the successional growth of scrub.

◀ View from Bredon Hill across the Avon and Severn valleys towards Abberley Hills, Worcestershire.
Michelle Price



△ *Hedwigia ciliata*. Dan Wrench



△ Death's Dingle: a typical dingle stream with tufa.
Michelle Price

James Eustace Bagnall was not a member of the Moss Exchange Club (MEC) when it was founded in 1896, but was included in the list of members for 1899. He contributed the list of bryophytes for the *Victorian County History for Worcestershire* but was criticized by Carlton Rea for not availing himself of the 'valuable herbarium at the Hastings Museum, Victoria Institute, Worcester' (Rea, 1901). Judging from the annual reports of the MEC, Bagnall's bryological activity declined about 1900 and he was made an Honorary member in 1909 'in recognition of his valuable work extending over many years.' In December 1876, Bagnall had read *Notes on Sutton Park: Its Flowering Plants, Ferns, and Mosses* at a general meeting of the Birmingham Natural History and Microscopical Society, the first systematic attempt to record any of the natural history of the park.

The 20th century

Another active member of the MEC from about 1901 was Edward Cleminshaw (1849–1922) of Edgbaston, Birmingham. A number of records in the annual reports are of Cleminshaw's finds in Worcestershire. In 1907–1908 he was Distributor of the bryophyte packets for the

MEC, but then handed over the task because of undisclosed family troubles. By 1911 he was again fully active, contributing over 200 bryophyte packets to the MEC.

At the beginning of the 20th century the Scottish-born John Bishop Duncan (1869–1953) was appointed bank clerk in Bewdley. The Worcester Museum's collection contains his herbarium of specimens, including Worcestershire records from 1898 to 1908, but he was known to be still resident in Bewdley in 1912. In 1901 he joined the MEC and was a prodigious contributor of bryophyte packages and records, and Treasurer of one subsection of the Club. The MEC developed into the BBS in 1923 (Corley & Hill, 1981). For the next 23 years Duncan, who no longer lived in Worcestershire, was the BBS's recorder for mosses, and from 1925 to 1945 he was the BBS Treasurer and its President from 1937–1938. In 1926 he edited the second edition of the *Moss Census Catalogue* (Corley & Hill, 1981).

While in Worcestershire, Duncan undertook the revision of the mosses for Amphlett & Rea (1909). He added a new species to the national bryoflora when he discovered *Fissidens fontanus* (*Octodiceras fontanum*, and recorded as



Octodiceras julianum in his herbarium material) on submerged timbers of a floating landing stage in the Severn at Bewdley, and subsequently on stones in the same river bed near Stourport (Anon., 1902; Rea, 1903; also described in *Journal of Botany*, February 1902, p. 51). Bert Reid and Harry Green recently rediscovered this



△ Edward Cleminshaw. BBS archive

unusual and uncommon moss in the River Avon.

Duncan looked at the collections in the local museum, then known as the Hastings Museum, Victoria Institute, Worcester. Nomenclatural and taxonomic changes make Thompson's material difficult to rely on without more work, but the fact that it was examined by Duncan helps to authenticate the identifications. At that time there were also collections from Dr Streeten, Dr Griffiths, Mr Westcombe and Mr W. Mathews, according to Duncan (1911), but these seem not to be in the collection now. Duncan's examination yielded eight new county records and confirmation of two doubtful records – '*Sphagnum recurvum*' on The Lickeys, 1848, from Thompson's collection; *Polytrichastrum alpinum* on North Hill, Malvern, 1831, from Streeten's herbarium; *Polytrichum commune* var. *perigoniale*, 1872, Hartlebury Common, Mathews; *Racomitrium aquaticum*, Malvern Hills, collected by Westcombe; *Trichostomum nitidum* (*Tortella nitida*) from rocks at Little Malvern, Griffiths; *Bartramia ithyphylla* from a spring halfway down the north side of North Hill, Malvern, 1831, Streeten; *Hypnum fluitans* var. *falcatum* (*Warnstorfia fluitans*) collected from Hartlebury Common, 1872, by Thompson; *Hypnum exannulatum* var. *brachydontium* (*Warnstorfia exannulata*) from Hartlebury Common,

1854, also collected by Thompson. A note written by Duncan on 19 November 1906 attached to a specimen of '*Grimmia leucophaea*' from Edwin Lees and part of Thompson's collection reads, '*I have very little faith in the other 5 or 6 plants recorded by Mr Lees from Malvern*', thus throwing doubt on the correct identities of other species listed by Lees for the Malvern Hills. Duncan made very few comments directly on Thompson's collection, and did not suggest any other misidentifications.

There is a footnote on p. 128 of the *Transactions of Worcestershire Naturalists' Club, Vol. III, 1899–1906*, to the effect that a very full and complete list of *The Mosses and Hepatics of Worcestershire* had appeared in the *Journal of Botany*, 1903,

▽ BBS members in a rhubarb field where *Sphaerocarpus texanus* and *S. michelii* have been found. Michelle Price

November and December parts, by Messrs J.E. Bagnall, A.L.S., E. Cleminshaw, M.A. & J.B. Duncan.

The bryophytes in Amphlett & Rea (1909) are described by Bagnall. Although, according to Rea he was an '*eminent bryologist and batologist*', Rea nevertheless criticized his contribution, writing (p. 48) that Bagnall '*is content to enumerate only a few of them*', which makes the information less valuable. Apparently, Bagnall had not consulted the herbaria in the museum.

After this, there were few further records known for the county until November 1959 when the Birmingham BBS meeting organized by S.W. Greene took its field excursion in the v.-c. 37 section of Wyre Forest. Jean Paton (1959, 1960) reports, '*First, at the eastern end of the Forest near Dowles Manor House where fine Rhodobryum roseum was shown to the party. Secondly,*



the Forestry Commission area in the southern part of the forest, near the service tree (*Sorbus domestica*), where woodland rides were explored. Species seen included *Riccia sorocarpa*, *Fossombronia wondraczekii*, *Cephaloziella starkei* (*C. divaricata*), *Marsupella emarginata*, *Scapania irrigua*, *S. nemorosa* (*S. nemorea*), *Pseud-ephemerum nitidum* and *Barbula hornschuchiana* (*Pseudocrossidium hornschuchianum*). After lunch and a beautiful drive to the north-east section, Cliff Wood, east of Pound Green was visited. Here *Hypnum patientiae* (*Calliergonella lindbergii*) was found on a path. On the steep rocky banks of the stream *Rhynchostegiella teesdalei* (*R. teneriffae*), *Heterocladium heteropterum*, *Saccogyna viticulosa*, *Lejeunea lamacerina*, and many typical oakwood plants were seen.

During the 1960s, Greene & Clark (1962) did some work in the Wyre Forest, and Hawksworth & Rose (1969) also paid a visit. Greene, together with his University of Birmingham extramural students, particularly Clark, surveyed selected areas of the Forest and compiled a checklist of species for the Forest (both v.-c. 37 and v.-c. 40), incorporating the species recorded by Bagnall (1909) and Paton (1960), and one species recorded by Hamilton (1902) for the Shropshire section of the Forest.

Hawksworth & Rose (1969) concentrated on lichens in their 1968 visit, but also recorded bryophytes of note. They added one species, *Ptilidium pulcherrimum*, not reported by Bagnall (1909), and nine others not mentioned by Greene & Clark (1962).

The BBS has visited the county on a number of occasions, culminating in the week-long Spring Meeting in 2004. During the 1968 BBS Spring Meeting based at Ross-on-Wye, some members ventured into v.-c. 37 (Paton, 1968). Records included *Riccia warnstorffii* (*R. subbifurca*) and *R. glauca* (new for v.-c. 37) from near Redmarley

D'Abitot where *Sphaerocarpos michelii* and *S. texanus* were refound. Incidentally, both species have been refound recently, the latter by G. Harry Green, in rhubarb fields near Holt Fleet.

At a BBS meeting held in Newtown in 1975, one member followed the River Severn catchment area as far as Worcestershire and found *Henediella* (*Tortula stanfordensis*), then a new record for the county (Hill, 1975). The 1979 BBS Spring Meeting was held in Ludlow, but visited v.-c. 37 during the week (Bloom, 1979). Again they found *H. stanfordensis* at Eastham Bridge on the River Teme. In a ravine in Hanley Dingle they recorded *Eucladium verticillatum*, *Eurhynchium praelongum* var. *stokesii* (now subsumed into *Kindbergia praelonga*), *Thamnobryum alopecurum* and *Conocephalum conicum*. *Rhynchostegiella teesdalei* (*R. teneriffae*) abounded on rocks in the

▽ *Sphaerocarpos texanus*. Fred Rumsey



stream, and *Dicranum tauricum* and *Leiocolea turbinata* were also found. It was suggested that further time spent there would probably prove to be bryologically rewarding.

At the 1984 Autumn Meeting of BBS, an excursion to Wyre Forest was led by Mr Peter Thomson (Burton, 1984). Along the stream banks in Park Brook valley *Frullania tamarisci*, *F. dilatata*, *Trichocolea tomentella*, *Pellia endiviifolia*, *Calliergonella lindbergii*, *Ulota crispa*, *Hygroamblystegium tenax* and a patch of *Ctenidium molluscum* were found. Martha Newton located 'a fine colony of *Bazzania trilobata* on a well-remembered boulder beside the path to Dowles Brook' and *Cephaloziella divaricata*, *Saccogyna viticulosa* and *Plagiothecium undulatum* were found together with a new vice-county record by Jean Paton of *Jamesoniella autumnalis* on a *Sorbus torminalis* (wild service tree) trunk in the valley below Lords Wood.

Meanwhile, Richard Fisk was exploring the county from his home base in Droitwich. From 1970 to 1982 Fisk collected a great many records and added greatly to the knowledge of bryophyte distribution within v.-c. 37. Only occasional records were added thereafter, mostly by people associated with Worcestershire Wildlife Trust, until David Holyoak's stay in the county in 1992–1993. During this short period he made his own records and also collated many of the records of bryophytes for v.-c. 37 and has kindly allowed me to see his notes and report (Holyoak, date unknown).

During the 1990s, bryologist Tom Blockeel investigated the specimens of *Cinclidotus* in the River Teme. He collected from Shelsley Beauchamp in v.-c. 37 (SO 729 624) and established that not only is *Cinclidotus fontinaloides* present, but also the much rarer *C. riparius* (Blockeel, 1998).

Into the 21st century

Pentecost & Zhaohui (2002) compared travertine sites in France and Britain. One site was at Shelsley Walsh, to the west of the Teme, outside v.-c. 37. However, their observations are of interest as a comparison with the Worcestershire travertine sites along the dingles of the Teme valley. The species recorded included *Eucladium verticillatum*, *Fissidens viridulus*, abundant *Palustrisella commutata* var. *commutata*, *Aneura pinguis*, *Conocephalum conicum* and *Pellia endiviifolia*.

Again there was a hiatus in recording after 1993 until 2000 when a small, inexperienced Worcestershire group began recording with Lorna Fraser as the key member. Occasional visits of the Border Bryologists and of their leader Mark Lawley have augmented the records compiled since then (Lawley, 2003). In spring 2004, over 60 BBS members attended the BBS spring meeting in Worcestershire and this, together with the preparatory exploration, greatly added to the information on the county's bryophytes (Carrick, 2004a, b and c). Records were obtained from over 70 sites, and 10 new bryophyte species and eight debracketings of species not seen since 1950 were added to the county's records. Since then, more outings have been made by the Worcestershire group. In 2005, it was recognized that British *Conocephalum* records represented two species rather than one (Blackstock *et al.*, 2005), so currently an attempt to check records is being undertaken across the county. So far, *Conocephalum salebrosum* has been found in Hunthouse Wood, at several sites in Wyre Forest, along the Sapey Valley and beside the River Severn at Bewdley.

The Worcestershire Biological Record Centre, based at Lower Smite Farm, Smite Hill, Hindlip, now includes a great many bryophyte records. However, there are some species for which no specimens have been vouched through the BBS

official recording scheme. Consequently, the records for v.-c. 37 should be taken to be those listed in the *Census Catalogue* (Hill *et al.*, 2008) and subsequent lists in *Field Bryology*. Currently (2010), Dr Ann Hill is the county recorder for bryophytes.

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