



BBS Spring Meeting

16-23 March 2013

Jeff Bates reports on the Spring Meeting 2013 in Lower Normandy, N. W. France

It is two decades since the BBS last held a meeting in France: the Spring Meeting based in Douarnenez, Brittany in March 1993 (Bates, 1994; Bates & Hodgetts, 1995).

Although Brittany is well-known for its rich flora of Atlantic bryophytes, neighbouring Lower Normandy (Basse-Normandie) has less of a reputation for oceanic species (Lecoite, 1981), but has been little-studied in recent years. The exception is the Cherbourg peninsula (the Cotentin) which most closely resembles Brittany in its climate, geology and bryophytes. The rest of Lower Normandy divides into two main areas, the south-western *bocage* on acidic geology, much wooded and mainly pastoral, and the eastern limestone districts extending from the north coast into the Caen plain and beyond, an area that is predominantly arable. The whole region comprises three *départements*,

△Fig. 1: Group photograph at Falaise Aerodrome. From left to right: Mark Hill, Sharon Yardy, David Long, Pauline Herve, Liz Kungu, Joyce Bates, Jeff Bates, Diane Taylor, Gordon Rothero, Julien Lagrandie, Dirk De Beer and Herman Stieperaere. J. Denyer

Calvados, Manche and Orne and is one that I have visited frequently and bryologised in at low intensity for over twenty years. The meeting was based at Clécy, southern Calvados, a picturesque village in the cliff-girt Orne valley or Suisse Normande ('Little Switzerland') with most of the party staying in gîtes managed by Ferme du Vey, either in Clécy itself or just across the river in le Vey. The small but perfectly-formed party (Fig. 1) consisted of a mixture of Belgian (Dirk De Beer, Herman Stieperaere), British (Joanne Denyer, Mark Hill, Liz Kungu, David Long, Gordon Rothero, Diane Taylor, Sharon Yardy, Joyce Bates and myself), and French (Vincent



△ Fig. 2 above: *Grimmia decipiens* with capsules, les Rochers des Parcs. J. Denyer



▷ Fig. 3 right: Working along a cliff ledge, les Roches d'Oëtre. J. Denyer

Bourguignon, Pauline Hervé, Julien Lagrandie, Séverine Stauth) bryologists, with the latter attending only on particular days as geography or work permitted. With such a modest-sized party it was possible for everyone to visit each site together, something that rarely happens on the larger UK-based meetings these days, but advantageous for swapping information and from the social viewpoint. Two main localities were visited on most days, mainly in Calvados, but also in the other two *départements*, Manche and Orne. Each site is localised to a 5 × 5 km square within UTM zones 30 or 31 using the normal convention: easting, northing.

A few days before the meeting an unusually late and heavy snowfall blanketed Normandy and the wider European landscape. It crushed many flimsily-built flat-roofed buildings, especially in the far west where the snow was heaviest, closed the *Pont de Normandie* motorway bridge over the Seine and brought traffic over much of the region to a standstill. Nevertheless, my concerned emails and phone calls established that all participants were 'booked and coming anyway'. In the event, much of the snow rather miraculously melted by the start of the meeting although impressive cornices on road banks and snow-filled ditches remained for a week or two to remind sceptical travellers just how bad it had been. During our stay the River Orne, and many of the lesser

streams we encountered, remained in high spate from snow-melt, a situation which undoubtedly affected our ability to find aquatic bryophytes.

SUNDAY 17th MARCH

Rochers des Parcs (Calvados)

UTM (30): 685, 5420

Clécy lies on the gently sloping west bank of the Orne but is faced by an abrupt escarpment of purplish Armorican sandstone which extends for some distance both upstream and downstream of the road-bridge linking it with le Vey. These cliffs are of Precambrian age, and among the oldest rocks in France. The highest exposures are south-facing and harbour a number of thermophilous plants and animals. We explored the upstream cliffs, les Rochers des Parcs. Tentative recording got underway along the lane running southwards from opposite Ferme du Vey. Here some very common bryophytes of disturbed soil or masonry were seen, *Entosthodon fascicularis* perhaps being the most interesting. David Long soon located fruiting *Sphaerocarpos michelii* on disturbed gravelly ground by the lane, the only time we saw it during the meeting. The masonry of an old railway bridge produced: *Bryum radiculosum*, *Didymodon sinuosus*, *Orthotrichum cupulatum*, *Sciuro-hypnum populeum* and *Zygodon viridissimus*. The party soon dispersed

over the exposed, heathy cliff tops and also explored several shaded gullies. Frequent species on the more exposed rocks included *Campylopus pilifer*, *Dicranoweisia cirrata*, *Grimmia decipiens* (Fig. 2), *G. montana*, *Hedwigia stellata* and *Polytrichum piliferum*, whereas *Cynodontium bruntonii* was in more shaded niches. The tiny winter annual *Teesdalia nudicaulis* in full flower was one of the few concessions to a reluctant spring. After brief sorties into the dip-slope oakwood (*Cryphaea heteromalla*, *Metzgeria consanguinea*, *Orthotrichum striatum*), and despite impressive views across the Normandy bocage, the wintry drizzle soon had the party retreating downhill to the comfort of their cars.

Roches d'Oëtre and Rouvre valley (Orne)
UTM (30): 690, 5410

A warming drive south-eastwards took us to les Roches d'Oëtre, a tourist attraction popular for its cliff-top views. This granite escarpment faces westwards and encloses the meandering ravine of the Rouvre, a major tributary of the Orne. In recent years an imposing visitor centre has been constructed just back from the cliff edge with extensive car park and a network of way-marked walks. In slightly improved weather we ate our lunch in the car park. The car-park shrub

beds produced several common bryophytes including *Brachythecium albicans*, *Bryum rubens*, *Entosthodon fascicularis* and *Pseudocrossidium hornshuchianum*, whereas *Grimmia decipiens* and *Sciuro-hypnum populeum* were noted on the rather trampled cliff tops, but neither habitat was explored exhaustively. Instead our efforts were directed to the cliff ledges and wooded ravine below, accessed by the steeply descending *Sentier du Granite*, with steps and hand rails in places. The party became dispersed as small groups explored sideways along cliff ledges from different stances down the *sentier* (Fig. 3). On the more exposed rock faces were *Campylopus pilifer*, *Frullania tamarisci*, *Grimmia decipiens* (in places with sporophytes), *G. trichophylla*, *Hedwigia stellata*, *Pterogonium gracile*, *Racomitrium fasciculare* (very scarce), *R. heterostichum* (scarce) and *Racomitrium lanuginosum*. One group was shown *Racomitrium aquaticum*, a rare plant in the region, by Julien. Gordon in another group found a separate patch of it.

The more shaded cliff faces with a background cover of *Isoetecium myosuroides* and *Pseudotaxiphyllum elegans* provided a

▽ Fig. 4 left: The snowy Circuit des Roches Blancs, Forêt Domaniale de St-Sever. J. Denyer

▽ Fig. 5 below: *Grimmia laevigata* with capusles, Falaises de Champeaux. J. Denyer





<Fig. 6: The author, Julien Lagrandie and Mark Hill in action, Coteau de Mesnil Soleil. Joyce Bates

longer list of species including *Aulacomnium androgynum* (on both rocks and peaty soil), *Barbilophozia attenuata* (locally abundant), *Bartramia pomiformis*, *Cynodontium bruntonii* (locally abundant), *Dicranum scoparium*, *Diplophyllum albicans*, *Leucobryum glaucum*, *L. juniperoideum*, *Plagiothecium denticulatum* and *Rhabdoweisia fugax*. A planned exploration of the river banks was somewhat curtailed because the river had covered the footpath and, for instance, nothing was seen of the extensive patches of *Porella pinnata* that grow here on rocks and tree roots at around the normal water level. The spate conditions were given further emphasis when a party of young canoists shot past us with appropriate shrieks of excitement! Despite the setback, a range of moisture-demanding taxa were eventually detected on shaded boulders including *Grimmia hartmanii*, *G. lisae*, *Heterocladium heteropterum* var. *flaccidum*, *Lejeunea cavifolia*, *Loeskeobryum brevirostre*, *Plagiochila porelloides*, *Porella arboris-vitae* (also on an *Alnus* base), *Rhytidiadelphus loreus* and *Thamnobryum alopecurum*. *Metzgeria conjugata* was recorded on a mossy block during an earlier reconnaissance visit. Embedded stones on tracks supported *Diphyscium foliosum*, *Racomitrium aciculare*, *Scapania nemorea* and *Sciuro-hypnum plumosum*. Besides a range of common acidophilous and neutrophilous woodland bryophytes on soil, the rich epiphytic flora included *Anomodon viticulosus*, *Leucodon sciuroides*, *Microlejeunea ulicina*, *Neckera complanata*, *N. pumila*, *Orthotrichum*

lyellii, *O. stramineum*, *O. striatum*, *O. tenellum* and *Zygodon rupestris*. With a total of 95 taxa recorded during the afternoon, this was the richest site visited during the meeting.

MONDAY 18th MARCH

Forêt Domaniale de St-Sever (Calvados) UTM (30): 640, 5410

Forêts domaniales are state-owned forests whose primary purpose is timber production but many are also actively managed for wildlife conservation and hunting. That near the small country town of St-Sever-Calvados is about 1550 ha in extent and one of three similar-sized large forests in the *département*. We parked near la Motte Castrale on the north-east side. This is an attractive spot with a series of interconnecting small lakes or *etangs* partly surrounded by plantations of *Fagus* and conifers giving appealing reflections. La Motte is one of several hundred motte-and-bailey defensive structures which existed in this area at about the time of *Guillaume-le-Conquérant* and it presents a series of ancient embankments that have been colonised by woodland bryophytes. We explored these and then followed a circular way-marked walk, *Circuit des Roches Blancs*, which looped southwards into the forest proper. At times we were wading through quite deep snow, a reflection of the westerly location and appreciable altitude (>300 m) of the forest (Fig. 4). Much of it is composed of comparatively young *Fagus* replanted after the 'Lothar Storm' of Boxing Day 1999 which did extensive damage to woodlands



◁Fig. 7 top: *Bryum torquescens* in limestone grassland, Coteau de Mesnil Soleil. J. Denyer

◁Fig. 8 centre: *Pleurochaete squarrosa* in limestone grassland, Coteau de Mesnil Soleil. J. Denyer

◁Fig. 9 bottom: *Grimmia crinita* with capsules on granite coping of churchyard wall, Chapelle du Mont-Joly. J. Denyer



in Lower Normandy and much further afield.

Around la Motte many species of acidic woodland were found including *Bartramia pomiformis*, *Calypogeia arguta*, *C. fissa*, *Dicranum majus* (local), *Diphyscium foliosum*, *Hylocomium splendens*, *Lepidozia reptans*, *Loeskeobryum brevirostre* (scarce), *Nardia scalaris*, *Plagiothecium undulatum*, *Pleuridium acuminatum*, *Pleurozium schreberi*, *Rhytidiadelphus loreus* (very abundant), *R. triquetrus* and *Solenostoma gracillimum*. A small patch of fruiting *Poblia elongata* was discovered on a wood bank by the northernmost *etang* and a single tuft of fruiting *Ptychomitrium polyphyllum* on a granite post nearby. The outfall stream from the *etang* produced *Platyhypnidium riparioides* and *Scapania undulata*, and *Poblia wahlenbergii* was on wet ground. Julien discovered *Calliergon cordifolium* in wet grassland nearby. A range of common epiphytes was seen including *Metzgeria furcata*, *M. violacea*, *Orthotrichum affine* and *Ulota bruchii*, all growing on *Salix*, *Microlejeunea ulicina* and *Radula complanata* on *Fagus* and *Orthotrichum lyellii*, *O. stramineum* and *Neckera pumila*, on *Quercus*.

Despite the snow, the Circuit added a few more bryophytes of acid woodland including *Calypogeia muelleriana*, *Cephalozia bicuspidata*, *Dicranella rufescens*, *Leucobryum juniperoideum* and *Marsupella emarginata* (on a granite boulder). A small woodland stream supplied several further species: *Aneura pinguis* (large plants on tops of emergent boulders), *Brachythecium rivulare*, *Chiloscyphus polyanthos*

(locally plentiful on submerged stones), *Fissidens pusillus* (on stones), *Fontinalis antipyretica* (on stones), *Heterocladium heteropterum* var. *heteropterum* (boulder by stream cascade), *Pellia epiphylla* (banks), *Rhizomnium punctatum* (flush), *Riccardia chamedryfolia* (on stones in stream), *Sciuro-hypnum plumosum* (boulders) and *Sphagnum palustre* (streamsides).

Falaises de Champeaux (Manche) **UTM (30): 605, 5395**

The west coast was reached in time for lunch. This was taken in warm sunshine on a pleasant grassy bank with distinct signs of spring at last and only a few tiny vestiges of snow in shaded spots. A short walk from the car park south of Carolles took us to Cabane Vauban, a look-out hut on the seacliffs overlooking the Baie du Mont Saint-Michel. There are superb views from here of Mont St-Michel itself to the south, across (west) to Cancale and Pointe du Grouin in Brittany, and north-westwards to the small archipelago of French 'Channel Islands', les Îles Chausey. The cliffs here closely resemble those on the south coast of Guernsey and like them are rather overgrown with *Ulex europaeus* and *Quercus* scrub now that grazing has ceased in such marginal habitats. We searched the rather disturbed rock exposures by Cabane Vauban before working southwards and exploring some more extensive, open and sunny rock exposures (UTM (30): 6060, 53991) by the coast path. *Campylopus introflexus* was very abundant on the shaley outcrops but mostly growing on shallow soil accumulations whereas *C. pilifer* was frequent on the bare rock. Four *Grimmia* spp. were recorded: *G. laevigata*, *G. montana*, *G. ovalis* (c.fr.) and *G. pulvinata*, the latter only on the disturbed rocks near the *cabane*. *G.*

laevigata was the only species that was frequent. A further species, *G. decipiens* was recorded during a reconnaissance visit in November 2012 when both it and *G. laevigata* were found with sporophytes (Fig. 5). Other species on the rocks included *Cephaloziella divaricata*, *Ceratodon purpureus*, *Frullania dilatata*, *Hedwigia stellata*, *Polytrichum juniperinum*, *P. piliferum* and *Pterogonium gracile*. Soil among the rocks added *Bryum alpinum*, *Riccia sorocarpa*, *Tortella flavovirens* and *Tortula viridifolia*. An early-flowering specimen of the diminutive Sand Crocus (*Romulea columnae*) was briefly admired on the rocky path, a species only native at Dawlish Warren (S. Devon) on the UK mainland, although common in comparable habitats in the Channel Islands. Among other commoner epiphytes on cliff-top oaks were *Cololejeunea minutissima*, *Cryphaea heteromalla*, *Orthotrichum pulchellum*, *O. striatum*, *O. tenellum*, *Radula complanata*, *Syntrichia laevipila* and *Ulota phyllantha*. *Microlejeunea ulicina* was recorded on *Crataegus*. We failed to re-find *Bartramia stricta* which was recorded hereabouts early in the twentieth century. I have made a mental note to return sometime to look for it lower down and further south where the cliffs may be more subject to sand accretion, but seaside developments or scrub growth have perhaps now extinguished it.

TUESDAY 19th MARCH

Coteau de Mesnil Soleil (Calvados) **UTM (30): 705, 5420**

This national nature reserve is entered from the car park of Falaise Aerodrome. The grassy runway for light aircraft is on the flat top of a series of low hills, les Monts d'Eraines, the



△Fig. 10: Mossy boulders beneath the cliffs of les Rochers du Vignage. J. Denyer

reserve consisting of limestone grassland, scrub and woodland occupies the south-facing slopes (Fig. 6). The majority of the surrounding Caen plain is now intensively farmed for cereals. Coteau de Mesnil Soleil is known for its significant complement of southern European vascular plants and invertebrates (Gibbons, 2003), although *Carex caryophylla* was one of the few plants in flower so early in the season. On gravelly ground in the car park Mark Hill spotted *Brachythecium mildeanum* ('Car-park Moss') and nearby *Bryum pallescens* was growing characteristically under the edge of a galvanised roof. We were welcomed onto the reserve by the manager, Florent Baude. Under Julien's expert guidance we recorded a fine selection of calcareous-grassland bryophytes among which *Abietinella abietina*, *Bryum torquescens* (Fig. 7), *Campylophyllum calcareum*, *Ditrichum gracile*, *Entodon concinnus*, *Leptobarbula berica* (in fruit on small pieces of limestone), *Pleurochaete squarrosa* (Fig. 8) (mainly on the steepest slopes), and *Tortella inflexa* (occasional on small pieces of limestone) were most noteworthy. A disturbed area by a patch of Junipers near the foot of the slope augmented the list of small acrocarps with *Dicranella varia*, *Didymodon acutus*, *Microbryum curvicolium*, *M. rectum*, *Phascum*

cuspidatum and *Tortula lanceola*. Before leaving we briefly visited an old limestone quarry with areas of fine limestone detritus at the bases of the cliffs. Many calcicole species were seen again as well as several epiphytes on shrubs including *Orthotrichum tenellum*. After the meeting Dirk informed me that he had identified supposed *Dicranella varia* from here as *D. howei*, a species that is largely 'off the radar' of British bryologists and one he was to find again later in the week. Once again we ate our lunch in a car park and the party was photographed next to the aerodrome's old red British telephone box, probably part of a 'twinning' exchange¹ (Fig. 1).

Brèche au Diable (Calvados) UTM (30): 700, 5425

Lying about 8 km north-west of the last site, the 'Devil's Breach' consists of two sets of opposing sandstone cliffs with a narrow defile between them through which the River Laizon falls in a series of cascades. The rock is acid but the water moderately calcareous and there is a rich and interesting bryophyte flora in this small wooded site that lacks formal protection. The hill top behind the south-eastern cliffs (Mont Joly)

¹Falaise is twinned with Henley-on-Thames.



△Fig. 11: On the cliff tops high above the River Orne, les Rochers des Parcs. J. Denyer

famously houses the tomb of Marie Joly (1761-1798), a popular actress during the Revolution who died young, and there is also a chapel (Chapelle du Mont-Joly), about which more later.

Species found on shaded rock included: *Barbilophozia attenuata*, *Bazzania trilobata* (very scarce), *Cynodontium bruntonii*, *Diplophyllum albicans*, *Frullania tamarisci*, *Heterocladium heteropterum* var. *flaccidum*, *Lejeunea lamacerina*, *Loeskeobryum brevirostre*, *Lophozia ventricosa*, *Marsupella emarginata*, *Metzgeria consanguinea*, *Microlejeunea ulicina*, *Plagiothecium succulentum*, *Porella platyphylla*, *Pseudotaxiphyllum elegans* and *Trichostomum brachydontium*. In addition, *Plagiochila bifaria*, first found here during a reconnaissance in November 2012 and new to Calvados, was seen in several places on vertical rock faces on the left (north-west) bank of the Laizon by the lower cascades. On submerged rocks in and by the river were: *Brachythecium rivulare*, *Cirriphyllum crasinervium*, *Conocephalum conicum*, *Dialytrichia mucronata*, *Didymodon sinuosus*, *Fissidens crassipes*, *F. gracilifolius*, *Lunularia cruciata*, *Rhizomnium punctatum*, *Rhynchostegiella curviseta*, *R. teneriffae*, *Scapania undulata* and *Thamnobryum alopecurum*. In addition, Dirk collected a *Cinclidotus* which

he later identified as *C. danubicus*, new to Lower Normandy. On the unshaded cliff tops we noted: *Campylopus pilifer*, *Dicranoweisia cirrata*, *Grimmia decipiens* and *G. lisae*. To these may be added *Hedwigia ciliata* var. *ciliata* seen during the reconnaissance visit. The list is completed by a range of common woodland-floor species (e.g. *Cirriphyllum piliferum*, *Oxyrrhynchium pumilum*, *Plagiomnium rostratum*) and a selection of common epiphytes.

Towards the end of the visit, Julien led a small group of us over the top of Mont-Joly and down past the *chapelle*. Here he pointed out a fine patch of fruiting *Grimmia crinita* plants (Fig. 9) growing on the vertical face of the granite coping stones of the churchyard wall that he had discovered in 2012. Later, we were invited back to Julien's home, literally a few hundred metres away in the village of Soumont-St-Quentin, where we were shown around his interesting wildlife-oriented garden and took tea with his delightful family.

WEDNESDAY 20th MARCH

The three sites visited were all within or just outside the vast Forêt Domaniale d'Ecouves (15,000 ha), some of the highest ground in

north-west France and the most southerly of the localities visited during the meeting. Although average annual rainfall is relatively high (800-900 mm or more) in this area, there is a high evaporative deficit in the summer months which limits the occurrence of the more hygrophilous bryophytes except where humid microclimates are maintained.

Tourbière des Petits Riaux (Orne)

UTM (30): 715, 5385

Peat bogs are rare in southern Normandy and so it was interesting to visit this small nature reserve near Goult with areas of valley bog, wet heath, carr and acid woodland. A boardwalk crosses the main bog area and it was apparent that active conservation involving scrub clearance from marginal wet heath areas was in progress. A pleasing range of peatland species was recorded in the boggier areas including five *Sphagna* (*capillifolium* subsp. *rubellum*, *denticulatum*, *fallax*, *palustre*, *subnitens*), *Bryum bornholmense*, *B. subapiculatum*, *Calypogeia fissa*, *C. muelleriana*, *Campylopus pyriformis*, *Cephalozia bicuspidata*, *C. connivens*, *Kurzia pauciflora*, *Polytrichum commune* and *Riccardia multifida*. One of the highlights was the discovery by David Long of *Aneura mirabilis* under *Sphagnum* at the foot of a small group of *Betula* near the centre of the mire. Although I did not know it at the time, this had first been discovered here in November 2010 (Hugonnot, Stallegger & Hauguel, 2012). Since its initial discovery in Brittany during the BBS meeting in 1993, *A. mirabilis* is now known from 17 20 × 20 km squares in France (Offerhaus & Hugonnot, 2006). *Polytrichum commune* was particularly abundant in carr woodland fringing the mire and this appears to be the habitat where the original discovery

of *A. mirabilis* at Petits Riaux was made. Another area of moist *Betula* woodland to the north of the mire provided several additional species including *Cololejeunea minutissima*, *Dicranum majus*, *D. montanum*, *Herzogiella seligeri* (discovered on a log by Dirk, the only find of the meeting), *Metzgeria consanguinea*, *Orthotrichum stramineum* and *Tetrabis pellucida*.

Rochers du Vignage (Orne)

UTM (31): 280, 5375

Near the southern edge of Forêt d'Ecouves, this site consists of a spine of north-facing cliffs along the crest of a ridge clothed in *Fagus*-dominated forest. First, however, we briefly explored a plot of mixed deciduous woodland (compartment 274) with a stream running through and lying on the north side of the minor Route Forestière des Gateys. The stream, its banks and emergent stones produced *Hyocomium armoricum*, *Racomitrium aciculare*, *Scapania undulata*, *Sciuro-hypnum plumosum* and *Sphagnum denticulatum*. Among a set of common bryophytes of acidic woodland, the following were the main highlights: *Antitrichia curtispindula* (one patch at chest height on a *Quercus* trunk), *Dicranum montanum* (on a stump), *Loeskeobryum brevirostre* (hummocks on woodland floor), *Metzgeria consanguinea* and *Zygodon rupestris* (on oak). Like many of the cliff areas we visited, Rochers du Vignage is a popular spot for *escalade* (rock climbing) but no climbers were encountered during the meeting. For the most part the cliffs and tumbled blocks beneath them were luxuriantly clothed by *Dicranum scoparium*, *Frullania tamarisci*, *Isoetecium myosuroides* and *Rhytidiadelphus loreus* (Fig. 10). The more shaded cliff faces supported sizeable



△Fig. 12, left: *Dicranum scottianum* with developing sporophytes and old capsules, les Rochers du Vignage. J. Denyer

△Fig. 13, right: *Southbya nigrella* on Jurassic limestone, les Carrières d'Orival. J. Denyer

populations of *Barbilophozia attenuata*, *Cynodontium bruntonii* and *Scapania gracilis*. At least one section of shaded cliff was sprinkled with cushions of *Dicranum scottianum* (Fig. 12) from top to bottom. *Anastrophyllum minutum* was found in small quantity in a shaded rocky niche. An accessible gully up the cliff face contained *Bazzania trilobata* in local abundance, and further up on vertical rock, several tufts of *Plagiochila punctata*. Other noteworthy bryophytes on stumps were *Dicranum fuscescens*, *D. montanum* and *Orthodontium lineare*, the latter slowly increasing but not yet common in Lower Normandy.

Chapelle St-Michel, Goult (Orne)

UTM (30): 715, 5385

A brief exploration was made of this area of heathy hillside with cliffs, ancient quarry workings and *Quercus* woodland. The restored hilltop *chapelle* is reputedly one where medieval knights came to confess before going on crusade. Fifty common species of acidic, rocky woodland were recorded including *Bartramia pomiformis*, *Cololejeunea minutissima*, *Cynodontium bruntonii*, *Dicranum montanum*, *Diplophyllum albicans*, *Lophozia ventricosa*, *Plagiomnium affine*, *Plagiothecium denticulatum*, *Pleurozium schreberi*, *Pohlia annotina* (on path) and *Scapania gracilis*.

THURSDAY 21st MARCH

Carrières d'Orival (Calvados)

UTM (30): 680, 5460

This regional nature reserve comprises an old quarry complex for the famous Caen stone (Jurassic Limestone) on the east side of the Seullès valley near Creully. The late Alain Lecointe discovered three new species for Lower Normandy here including *Southbya nigrella* (Fig. 13) and *Cephaloziella baumgartneri* (Lecointe, 1979). Although woodland has now taken hold in many parts, the reserve still supports an interesting calcicole flora and is very actively managed. On a cold, drizzly day we were enthusiastically greeted by the reserve manager and entomologist, Loïc Chéreau, complete with flasks of hot coffee for those who needed it. We first visited cliffs in the south-east part of the reserve and later examined short grassland in a more recently-quarried area in the north-east part of the reserve. Sixty-eight taxa were recorded in an all-too-brief visit. *Southbya* was still much in evidence. Small patches were present in cliff crevices in the S.E. area and it was also observed on black (?algal) 'gunk' on low boulders in the most recently quarried area and on small limestone pieces near the main entrance. The list

of bryophytes observed included: *Aneura pinguis*, *Anomodon viticulosus*, *Bryum pseudotriquetrum*, *B. ruderale*, *Campyliadelphus chrysophyllus*, *Campylium protensum*, *Campylophyllum calcareum*, *Dicranella varia* (in grassland, but see below), *Ditrichum gracile*, *Encalypta streptocarpa*, *Entodon concinnus*, *Eucladium verticillatum*, *Gyroweisia tenuis*, *Leiocolea turbinata*, *Leptobarbula berica*, *Microbryum rectum*, *Pseudocrossidium revolutum*, *Rhynchostegiella tenella*, *Syntrichia papillosa*, *Thuidium assimile* (open mossy turf), *Tortula marginata* and *Trichostomum crispulum*. Once again, Dirk reported that microscopic examination of *Dicranella* confirmed the presence of *D. howei* on limestone detritus. *Eurhynchium striatum* and *Rhytidiadelphus triquetrus* were extremely abundant in the wooded areas. Regrettably, we did not re-find *Cephaloziella baumgartneri*.

Chaos de Longues (Calvados)

UTM (30): 665, 5465

The high Jurassic limestone cliffs on the Calvados

coast mirror those 100 miles (160 km) to the north-west in Dorset and like them are prone to slipping over the underlying clay beds. Sadly, the normally fine views of the D-Day invasion coast from the cliff-top at Longues-sur-Mer where we parked (and lunched) were today occluded by drizzle. The afternoon outing consisted of a stroll down the steep zig-zag road to the shingle beach. One of the first mosses examined, on the sloping tarmac surface of the road, proved to be new to Normandy, *Didymodon nicholsonii*, growing in a seaside habitat now very familiar to UK bryologists. Limestone outcrops by the road supported large patches of *Neckera crispa* as well as some of the other common calcicoles seen earlier in the day. *Leiocolea turbinata*, *Oxyrrhynchium pumilum*, *Pellia endiviifolia* and *Tortula protobryoides* were among several species on the limey road banks. Epiphytes also provided interest on landslip shrubs by the road and included *Cololejeunea minutissima*, *Cryphaea heteromalla*, *Orthotrichum pulchellum* and *Zygodon conoideus*. The inclement conditions, the very unstable nature of the cliffs

▽Fig. 14 left: *Grimmia hartmanii*, on shaded granite cliff, Chant du Caillon, Taillebois. J. Denyer. ▽Fig. 15 right: *Sphagnum capillifolium* subsp. *capillifolium*, la Fosse Arthour. J. Denyer





△Fig. 16: block scree at the foot of eastern cliffs, la Fosse Arthour. Joyce Bates

and a high tide combined to discourage further exploration when we reached the beach. To lift morale, the long drive home was interrupted by a diversion to 'la Valette', our family's *maison secondaire* near St-Jean-le-Blanc. Joyce had gone ahead, bought provisions, lit a welcoming log fire and, in record time, baked some piping-hot buns that were greatly appreciated by all. In the gathering gloom the last few miles to Clécy along snaking back lanes proved very exciting.

FRIDAY 22nd MARCH

Chant des Cailloux, Taillebois (Orne)

UTM (30): 685, 5406

Another visit to the pretty Rouvre valley, but this time to a stretch a few kilometres further upstream that looked interesting but had apparently not been bryologised previously. Grassy fields around the riverside car park on the left (west) bank contain embedded granite boulders called *plutons* which resemble sarsen stones in southern England. These are probably responsible for the fanciful name 'Song of the Quail'. Further upstream the valley is wooded and narrows until eventually there is a rocky 'choke

point' by a cascade which marked the limit of our exploration. On the plutons were *Cephaloziella divaricata*, *Fossombronia pusilla*, *Grimmia lisae*, *Hedwigia stellata*, *Racomitrium heterostichum*, *Riccia sorocarpa*, *R. subbifurca* and *Sciurohypnum populeum*. On rocks in or close to the still bank-high river were *Brachythecium rivulare*, *Cirriphyllum crassinervium*, *Heterocladium heteropterum* var. *heteropterum*, *Plagiomnium cuspidatum*, *Porella cordaeana*, *Racomitrium aciculare*, *Schistidium apocarpum* (*sensu stricto*), *S. rivulare* and *Trichostomum tenuirostre*. Shaded rocks on the steep woodland bank yielded *Bartramia pomiformis*, *Chiloscyphus polyanthos*, *Cynodontium bruntonii*, *Fissidens dubius*, *Grimmia hartmanii* ('a few nice patches', Fig. 14), *Heterocladium heteropterum* var. *flaccidum*, *Isoetecium alopecuroides*, *Loeskeobryum brevirostre* and *Metzgeria conjugata*. Together with a respectable list of epiphytes and other species of acidic-neutral woodland soil, the total for this interesting locality was 87 taxa.

Fosse Arthour (Manche, but SE part in Orne)

UTM (30): 665, 5385

Reputedly one of the richest sites in Lower Normandy outside the Cotentin for Atlantic bryophytes, la Fosse Arthour consists of an east-west aligned rocky, wooded ridge bisected by the River Sonce and a parallel access road. We parked by the river in the auberge car park where, as usual, we ate our sandwiches before splitting into two main groups. David, Gordon and Jo explored the western cliffs (Manche), while the rest of us eventually concentrated on the eastern half of the site (partly in Orne). Among the more notable bryophytes seen were *Anastrophyllum minutum*, *Andreaea rothii* subsp. *rothii* (the only *Andreaea* of the meeting), *Antitrichia curtispindula*, *Barbilophozia attenuata*, *Bazzania trilobata* (dispersed among block scree), *Cynodontium bruntonii*, *Dicranum montanum*, *D. scottianum* (vertical rock faces), *Douinia ovata* (fairly extensive patches on both eastern and western cliffs), *Frullania fragilifolia*, *Grimmia decipiens*, *Lepidozia cupressina* (block scree), *Loeskeobryum brevirostre*, *Nowellia curvifolia*, *Plagiochila punctata*, *P. spinulosa*, *Sphagnum capillifolium* subsp. *capillifolium* (Fig. 15) and *S. fimbriatum*. Although still running strongly, water level in the Sonce had fallen sufficiently to uncover some large patches of *Porella pinnata* on its rocky banks, much to the delight of David Long to whom this 'southern' species is an exotic treat! Despite the extensive list of oceanic species seen, the total number of taxa, 87, was identical to that recorded in the morning at Taillebois.

Tailpiece

From a social perspective the meeting was very enjoyable even though Clécy proved a sleepy place in March. To eat out we tended to alternate between the only two restaurants open at this season, but on one night the ladies residing at *La Vennerie* cooked a fine British

curry for all those staying in the Ferme-du-Vey gîtes. I am grateful to everyone for making such a happy group. I would also like to thank Séverine Stauth and Julien Lagrandie for much friendly advice and for supplying literature, and I wish them well in their project to publish a new checklist of the bryophytes of Basse-Normandie in due course. Lastly, I thank the various conservation managers and forestry authorities for so graciously permitting a gang of foreigners to trespass on their precious reserves.

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Jeff Bates

e. j.bates@imperial.ac.uk