Jones (1986) presents the most comprehensive profile of the pit during the earlier years, and Porley (1996) provides a more contemporary record of bryological changes, especially in epiphytes.

We have produced a report following a survey of the bryophytes of Chawley Brick Pit in 2002 and 2003. Higher plants and soil acidity were also recorded to assist with an understanding of the site. The bryophyte survey added 16 species to the extensive historical list for the pit, including the locally rare liverwort *Pellia neesiana*. The natural succession that has occurred in the pit since 1940, from bare soil and acidic pools to woodland, is closely related to the industrial history of the site, and the results are placed in the context of these changes. The site is notable for the regionally and nationally rare bryophytes that have been recorded, and some of these remain, including *Sphagnum* species. Factors relating to the future of bryophytes at the site are discussed.

The full report can be downloaded from www.fritillary.org.uk. For a hard copy, contact Jacqueline Wright at the address above or phone on 01865 874423.

References

Jones EW. 1986. Bryophytes in Chawley Brick Pit, Oxford, 1948-1985. *Journal of Bryology* **14:** 347-358.

Porley R. 1996. Further observations on the bryophytes in Chawley Brick Pit, Oxford. *Journal of Bryology* **19:** 185-187.

Reports of BBS meetings

Throughout the following account, new vice-county records are indicated with an asterisk (*). Nomenclature follows Paton (1999), *The liverwort flora of the British Isles*, and Smith (2004), *The moss flora of Britain and Ireland*, 2nd edition.

Field meeting, February-March 2006, Salerno, Italy

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Introduction

The second BBS meeting in Italy within 10 years was led by Roberto Ligrone, with Jeff Duckett co-ordinating the arrangements for British participants. In addition to Jeff, the visitors were Janet Betts, John Blackburn, Tom Blockeel, Sam Bosanquet, Jonathan Graham, Mark Hill, David Long, Howard Matcham, Ron Porley, Chris Preston, Michael Proctor, Gordon Rothero, David Rycroft, Jonathan Sleath and Silvia Pressel, who, as a bryologist working in London but born in Italy, provided a link between the two nations. We flew to Naples on 22 February,

meeting Roberto there for the journey to our HQ at the Jolly Hotel, Salerno, and for an evening meal in the town which provided an excellent introduction to the food and wine of the area, including *spaghetti alle vongole*. During the week we were joined by an almost equal number of Italian bryologists: Michele Aleffi, Patrizia Campisi, Simonetta Giordano, Luca Miserere, Alessandro Petraglia, Fiorenza Provenzano, Francesco Sguazzin, Valeria Spagnuolo, Roberta Tacchi and Stefano Terracciano.

The previous meeting in Italy, in 1997, had been to Alpine territory. Salerno, in the Mediterranean south of the country, offered the prospect of a very different flora. Each day we travelled by coach to our field sites, where we were often joined by local naturalists who most generously spent their time guiding us round their local patches. Plants were listed on a recording card devised for the meeting by Mark and Chris, and based on species reported from Campania and neighbouring regions on the Italian check lists (Cortini Pedrotti, 2001; Aleffi, 2005), which are available on the web.

Thursday 23 February

Our acquaintance with the local flora began in the **Parco Nazionale del Cilento**, an area of limestone and sandstone rocks with overlying soils of volcanic origin. We walked north from Lago along the coast through maquis with scattered sandstone rock outcrops. Characteristic Mediterranean species that we were to see repeatedly during the week included *Cephaloziella baumgartneri*, *Corsinia coriandrina*, *Fossombronia caespitiformis*, *Southbya nigrella*, *Cheilothela chloropus*, *Dicranella howei*, *Leptobarbula berica*, *Pleurochaete squarrosa*, *Pottia starkeana*, *Rhynchostegium megapolitanum* and *Scleropodium tourettii*. In contrast, the relatively base-poor and seasonally wet substrate in places provided niches for several species that we were not to see again on subsequent days, in particular *Riccia bifurca*, *R. gougetiana*, *Archidium alternifolium*, *Ephemerum recurvifolium* and *Entosthodon fascicularis*. *Fossombronia angulosa* was also present. The vascular plants included flowering *Anemone hortensis* and the more cryptic *Isoetes durieui*, the latter found in a damp depression.

We had all been given 'buffalo eggs' to carry for our lunch, and on reaching a local vineyard these succulent balls of mozzarella, some smoked, formed the basis of a buffet meal with bread, delicious ricotta and the excellent local white wine. Thus fortified, we returned by a slightly different route, which initially took us close to the shore. In a clearing in the scrub, on flat rather silt-like soil near the top of the low coastal cliff, we found a mixed population of *Riccia bicarinata*, *R. nigrella* (Figure 1) and *R. subbifurca* together with the tiny ephemerals *Acaulon muticum*, *Aschisma carniolicum*, *Ephemerum sessile* and *E. serratum* var. *serratum*.

Figure 1. *Riccia nigrella*, Cilento. Photo: Jonathan Sleath.

Lunch, and the interesting bryophytes afterwards, had left us only time for a brief visit to our second site, the remarkable ruins of the ancient Greek, and later Roman, site of Paestum, where three large temples are surrounded by massive and remarkably well-preserved travertine walls. A brief examination of the outer walls and nearby limestone rock outcrops provided further Mediterranean species, including *Bryum canariense*, *Pottia recta*, *Timmiella barbuloides* and *Tortella nitida*, before we returned to the coach in failing light and a shower of rain.

Friday 24 February

We spent the day in **Valle delle Ferriere**, a spectacular limestone gorge above Amalfi. We walked up through the town into the valley and then past ruined paper mills to a large waterfall, at which point the gorge ceases to be easily accessible. At the start of the walk the shaded limestone walls of the upper town supported fine colonies of *Plagiochasma rupestre*, along with *Marchantia paleacea* (in a damp area), *Targionia hypophylla*, *Funariella curviseta*, *Leptobarbula berica*, *Timmiella barbuloides* and numerous plants of the delicate fern *Anogramma leptophylla*. In more natural habitats in the gorge we added *Cololejeunea calcarea*, *C. rossettiana*, *Marchesinia mackaii*, *Pedinophyllum interruptum*, *Southbya tophacea*, *Bryum gemmiparum*, *Eurhynchium striatulum*, *Rhynchostegiella teneriffae*, *R. curviseta*, *Schistidium singarense* and *Weissia condensa*. Epiphytes were not especially diverse, but the abundance of *Cololejeunea minutissima* and *Habrodon perpusillus* on some trees was notable; *Leptodon smithii* and *Leucodon sciuroides* were much less frequent.

We got to the waterfall by lunch-time, eating our lunch in sight of the fenced colony of the fern *Woodwardia radicans*, the rare European representative of a predominantly tropical genus. Jeff pointed out, on the far side of the stream, the overhanging cliff (Figure 2) under which he had previously discovered *Cyathodium foetidissimum*, new to Europe (Duckett & Ligrone, 2006). Those of us unfamiliar with the species needed three trips across the stream and through the curtain of water dripping from the rock above before we found it, as we initially confused it with the much more frequent, though very depauperate, *Conocephalum* and *Pellia*. The *Cyathodium* thalli were not shining as strongly on a rather gloomy day as they had on the bright day in 2003 when Jeff and Roberto discovered the colony, and this presumably explains why this pantropical species has been overlooked for so long. On drier cliffs in this area we saw several handsome patches of the rather golden-yellow *Homalia lusitanica*.

In all we recorded 73 mosses and 26 liverworts in the gorge, a highly respectable total for a lowland site in the Mediterranean area.

Figure 2. *Cyathodium* site, Valle delle Ferriere. Photo: Jonathan Sleath.

Saturday 25 February

A 7.15 a.m. start was needed for our journey to the island of **Ischia**, which involved a coach trip to Naples, a ferry to Ischia port, and then a crowded local bus to the village of Fornio. The geology of the island is entirely volcanic, and we had to climb a considerable distance above the village before the small, intensively worked fields on soft soil gave way to sweet chestnut coppice at about 400 m. Unfortunately, our route led us away from a group of smoking fumaroles on a nearby hillside. By lunch-time we had reached semi-natural habitat, but when low cloud descended and rain was clearly imminent our local guide suggested that we had better return straight away by the same route. To those accustomed to fieldwork in more northern climates this advice seemed unnecessarily cautious, a view strengthened by Roberto's advice that, in our position, he would carry on. Roberto took charge of the party after the guide abandoned us to the consequences of our folly, and led us over the wooded hills to Fontana. However, few members of the party were able to continue bryologising for long, as we were subjected to very heavy rain. As far as we could

tell, the sweet chestnut coppice was species-poor but Jeff quickly located *Campylostelium saxicola* on loose stones. Massive boulders in the woods supported *Antitrichia curtipendula*, *Grimmia lisae* and *G. meridionalis*, with much *Pterogonium gracile* and a robust form of *Isothecium myosuroides*, found by Sam. Roadside and streamside banks on the descent to Fontana also looked as if they might be interesting: brief stops produced *Scapania compacta*, *Tortula cuneifolia* and a second, curious *Tortula*, perhaps a form of *T. solmsii*. Dripping with rain, we boarded another bus to the port and caught a return ferry to Naples. It is a pity that the visit to the island was blighted by bad weather, especially as it took place on the birthday of one of our party, Ron Porley.

Figure 3. View of Positano. Photo: Jonathan Sleath.

Sunday 26 February

We spent Sunday on the south side of the **Sorrento peninsula** as guests of the Salerno Alpine Club, taking a route above the coast from Bomerano to Positano known as 'the Path of the Gods' (Figure 3). Conditions were absolutely perfect, as the bryophytes were nicely hydrated but we were able to inspect them in bright sunshine. For some members of the party, the day's fieldwork began with a coffee and an endemic pastry, sfogliatelle, on arrival at Bomerano. We all then took a path westwards along the side of very high limestone cliffs, very ably led by a guide, David, who was born in Aberystwyth but is a long-time resident of this area. Pathside banks, some natural rock outcrops, scrub and patches of woodland provided the main bryophyte habitats.

We saw superb material of *Mannia androgyna* on the walls and banks and were able to confirm its androgynous nature. On the rock outcrops the highlights were *Crossidium squamiferum* var. *squamiferum* and a patch of *Oxymitra incrassata*, the latter with hyaline scales curling over the thalli like the teeth of a man-trap (Figure 4). Other species of open rocks and shallow soil included *Fossombronia echinata*, *Didymodon sicculus*, *Fissidens ovatifolius*, *Grimmia orbicularis*, *Gymnostomum calcareum* and *G. viridulum*. Sam's scrutiny of the Schistidia produced *S. elegantulum* and *S. singarense*, as well as *S. crassipilum*, while the *Grimmia* species included *G. dissimulata*, *G. lisae* and *G. tergestina*. *Eurhynchium meridionale* was seen rather locally in shaded places, and *Cololejeunea rossettiana* in one shaded gully. The patches of

Figure 4. *Oxymitra incrassata*, Positano. Photo: Jonathan Sleath.

woodland were dominated by the evergreen *Quercus ilex*, but the less frequent deciduous oak *Q. pubescens* proved to have a much richer epiphyte flora. On the latter the most frequent *Orthotrichum* was *O. tenellum*, but under Tom's guidance we were able to get our eye in for *O. acuminatum*, present in small quantity, and a smaller species that was later determined as *O. schimperi*. Sam spotted an epiphytic scrap of

Hedwigia stellata, and *Cololejeunea minutissima* was frequent on *Alnus cordata* in a shaded valley. There were few wet areas, but *Bryum gemmiparum* was seen on the moister parts of the cliffs.

The path ended above the village of Positano, and we made our way down 931 steps to the coach waiting in the village below.

Monday 27 February

We had expected that this day, set aside for our visit to **Vesuvius**, would provide one of the highlights of the week. The morning was gloomy and as the forecast suggested that conditions would deteriorate, Roberto suggested that we start on the highest ground. On reaching the car park below the summit, at 1,010 m, we found that conditions were so unpleasant that it was only after prolonged discussion that Roberto persuaded the guides to take us round the high ground. As we waited for the result of the negotiations, we watched rain and, on occasion, snow showers swirling round the crater (Figure 5). It was difficult to distinguish the volcanic smoke emerging from fumaroles from the prevailing low cloud and mist.

Figure 5. Cloud and rain on Vesuvius. Photo: Jonathan Sleath.

Mosses were infrequent on the volcanic rocks at this height, but the material collected almost blindly and hastily thrust into packets or tins later proved to include *Anomobryum julaceum*, *Schistidium confertum*, *S. flaccidum*, *Grimmia lisae*, *G. montana*, *G. ovalis*, and all three segregates of the *G. trichophylla* complex (*G. dissimulata*, *G. meridionalis* and *G trichophylla s. str.*). Eventually we were led around part of the crater's rim and then over the lip to a smoking fumarole just below, where steam emerged from crevices in the rock and even on such a cold day the earth in the more sheltered areas was hot to the touch. The most exciting find here, detected by Sam on thin soil over rock in the deepest part of a rock crevice, was *Splachnobryum obtusum* (Figure 6), a widespread species in the tropics and subtropics but in Europe normally found only in glasshouses. Its occurrence in a natural habitat on Vesuvius is of great interest. Of equal interest, though not new to the area, was *Barbula indica*, another widespread tropical species with very few European localities. It went unnoticed

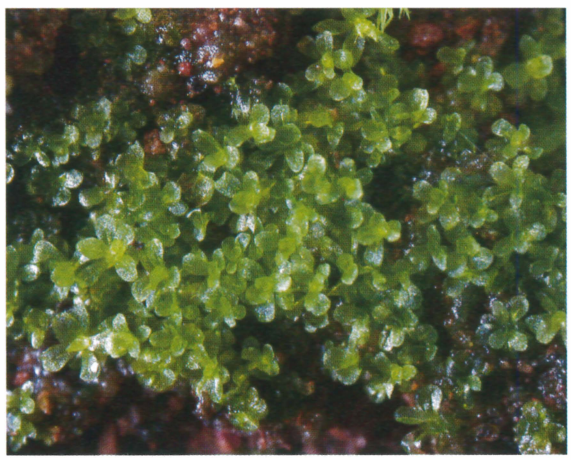

Figure 6. *Splachnobryum obtusum*, Vesuvius. Photo: Jonathan Sleath.

in the field but several members later found that they had collected its tiny, highly gemmiferous shoots growing both with the *Splachnobryum* and in other places nearby. A third subtropical species, *Trematodon longicollis*, was found with some old fruit by Jeff and Ron but sadly most of the *Trematodon*-like material lacked the very distinctive long-necked capsules. It was an unworldly experience to collect these subtropical bryophytes when beset by bitterly cold winds and sleety rain. Other

plants growing around the fumarole included *Fossombronia husnotii*, *Marchantia paleacea* and *Philonotis marchica*. *Racomitrium canescens* was on bare lava.

By lunch-time the weather had settled into heavy rain that was to persist for the rest of the day. The slopes of Vesuvius are a national park and we ate our lunch hastily just below the summit car park (970 m) in a fenced area of *Genista aetnensis* scrub over lava dating from the last eruption in 1944. Unfortunately, the bryophytes in this area proved to be mundane, consisting largely of a mass of pleurocarpous mosses such as *Brachythecium albicans*, *Homalothecium lutescens* and *Rhynchostegium megapolitanum*. Another lava flow at 565 m, probably dating from the 79 AD eruption that entombed Pompeii, had been colonised by a more varied and scattered selection of shrubs and trees, and proved much more interesting. Grimmiales dominated many rock surfaces: *Grimmia laevigata* and *G. lisae* were abundant, *G. decipiens* and *G. pulvinata* frequent and *G. ovalis* rare, whilst other species included *Fossombronia husnotii*, *Mannia androgyna*, *Plagiochasma rupestre*, *Porella cordaeana* and *Hedwigia stellata*.

By this time members of the party were both wet and cold, and it was difficult to detect any disappointment when the leader failed to detect a suitable stopping site on the lower slopes of the mountain. We made an early return to Salerno, having had (as we had expected) a most memorable and successful day but also wondering what more we might have achieved had the conditions been more favourable.

Tuesday 28 February

We spent our last full day on the south side of **M. Accellica**. We were driven up a track to 830 m, spending the morning at about this altitude before walking down into the village of Giffoni Valle Piana at 200 m, bryologising en route. For the first time we were in a landscape with many mature trees, including olives at lower altitudes, large, well-spaced sweet chestnuts in a wood-pasture community at somewhat higher levels, and some beech woodland. The early spring flowers included *Galanthus*, *Hepatica nobilis*, *Scilla biflora* and a beautiful crocus, *C. imperati* (*C. neapolitanus*). This splendid foreground and the backdrop of the mountain ridge, with its upper slopes lightly covered by snow and frosted trees, every detail visible in the clear light of a fine, crisp day, provided some of the most memorable scenery of the trip.

Not surprisingly, the epiphyte flora was rich and we recorded 10 species of *Orthotrichum* on bark (*O. affine*, *O. acuminatum*, *O. diaphanum*, *O. lyellii*, *O. rupestre*, *O. schimperi*, *O. shawii*, *O. stramineum*, *O. striatum* and *O. tenellum*), as well as *O. anomalum* and *O. cupulatum* on rocks. *Leucodon* was much more abundant at this altitude than in the lowlands. For the first time there was a distinctly northerly element to the flora, including a few Boreo-arctic and Boreal-montane species (*Lophozia alpestris*, *Preissia quadrata*, *Distichium capillaceum*, *Mnium thomsonii*, *Myurella julacea*, *Plagiobryum zieri*, *Plagiopus oederianus* and *Pterigynandrum filiforme*), and it was strange to see these in the same area as such typical Mediterranean plants as both species of *Southbya*, *Cheilothela chloropus*, *Dialytrichia mucronata* and *Gymnostomum viridulum*. Jeff found *Barbula crocea* on tufa in a spring, and other notable species on limestone rock outcrops, shaded soil and roadside banks included *Jungermannia atrovirens*, *J. pumila*, *Lophocolea minor*, *Pedinophyllum interruptum*, *Porella arboris-vitae*, *P. cordaeana*, *Campylophyllum calcareum*, *Ditrichum gracile*, *Funaria muhlenbergii*, *Mnium marginatum*, *M. stellare*, *Philonotis marchica*, *Pseudoleskea incurvata*, *Schistidium elegantulum* and *Timmiella anomala*. Near Mercato there were some good populations of the fragile-leaved *Dialytrichia mucronata* var. *fragilifolia*, both on trees and on a rock face (the latter with sporophytes). In some places it was growing very close to the type variety, and did not appear to differ in any way in its ecology. The final tally from this rich and varied locality was a very impressive 146 taxa.

The long walk down to Giffoni Valle Piana ended in surreal fashion as the town carnival was in full swing, and we picked our way through the procession of floats, troupes of participants, many in costumes and masks, and the spectators lining the road. The more memorably disturbing participants included a group of giant hands (Figure 7), a float laden with giant syringes and cigarettes followed by an ambulance, and a man in a nun's costume that opened to reveal a priapic red devil.

Figure 7. Carnival, Giffoni. Photo: Jonathan Sleath.

We eventually rejoined the coach and went on to the Borgo Terravecchia, a medieval palace now restored to provide a venue for scientific meetings and accommodation for students on field excursions. Here we were treated to local delicacies and wine at a reception given by the Council of Giffoni Valle Piana, and offered books and CDs about the area.

Wednesday 1 March

On the last day the party was reduced to the visiting contingent, accompanied at first by Roberto. Most of us had booked a return flight from Naples in the evening, and the final day was spent in sight-seeing, combined, for those who were not 'mossed-out', with some rather relaxed bryology. A visit to **Salerno** cathedral provided *Sphaerocarpos michelii* and *S. texanus* in cracks between the paving stones of the atrium. *Fabronia pusilla* and *Orthotrichum philibertii* grew on *Quercus ilex* in the park near the hotel. Both had been seen during idle moments on previous days on trees on the sea-front.

After coffee and ceramics at **Vietri**, where a casual collection of mosses from a trough of flowering shrubs provided *Bryum violaceum* new to Italy, we said farewell to Roberto. We then went on to **Pompeii** to spend the afternoon looking around the ruins of the ancient city, almost overshadowed by Vesuvius (which at times was completely clear of cloud). This was the third World Heritage site we visited in the week (the others being Cilento/Paestum and the Amalfi coast). Many of the 62 bryophytes we listed were Mediterranean-Atlantic species we had seen earlier in the week, including fine sheets of *Riccia crystallina* (with smaller quantities of *R. sorocarpa*) on trampled ground in the amphitheatre, further *Sphaerocarpos* on soil in several places (the very few plants with mature spores were *S. michelii*) and *Crossidium squamiferum* var. *squamiferum* on walls. Other records included *Fossombronia maritima*, *Fabronia pusilla* and a second species of *Crossidium*, *C. crassinerve*. The most exciting find of the day, however, was a distinctive *Pottia*-like moss found by Jonathan Sleath on thin soil over stone. It proved to be *Grimmia* (*Campylostelium*) *pitardii*, a species previously known in Italy only from a recent collection in the Monti Sicani in Sicily. In the early evening we reassembled rather reluctantly at the coach for the journey to Naples airport.

Acknowledgements

On behalf of all the participants, we would like to thank Roberto Ligrone for his leadership of the meeting. His ability to combine rich bryological venues, many of them in areas of outstanding scenery, with a due concern that we should sample the local gastronomic specialities, made this a most memorable week. Although the atmosphere was perhaps less austere than that of many British meetings, it was just as conducive to rewarding bryology. It is not

surprising that when Roberto mentioned the possibility of a further BBS meeting in Italy, the suggestion was greeted with much enthusiasm.

We also thank Dr Mario Calvi for supporting the Accellica excursion, all the local naturalists whose help at individual sites contributed much to the success of the week, and Mario Cano, Francisco Lara and Eva Maier for their comments on some of the specimens we collected. A special word of gratitude is due to Jeff Duckett, who first suggested the meeting and who did much to help organise it by acting as liaison between Roberto and the British contingent.

References

Aleffi M. 2005. New check-list of the Hepaticae and Anthocerotae of Italy. *Flora Mediterranea* **15:** 485-566.

Cortini Pedrotti C. 2001. New check-list of the mosses of Italy. *Flora Mediterranea* **11:** 23-107.

Duckett JG, Ligrone R. 2006. *Cyathodium* Kunze (Cyathodiaceae: Marchantiales), a tropical liverwort genus and family new to Europe, in southern Italy. *Journal of Bryology* **28:** 88-96.

Bryophyte ecology workshop 2006, Silwood Park

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Background

This year's workshop was used to launch the Bryophyte Ecology Group (BRECOG), a new specialist section of the Society. The meeting was held on 10-12 March 2006 at Silwood Park, the 'country campus' of Imperial College London, on the edge of Windsor Great Park, near Ascot, Berkshire. Approximately 40 people were present for the Saturday session, which was devoted to a series of 30-minute talks by invited speakers under the general heading *Ecological traits of common British bryophytes: what should we measure and how?* Many also joined Professor Mick Crawley's interesting botanical tour of the grounds before the talks got underway. About half the party stayed overnight on Saturday and joined the local organiser Jeff Bates and his wife Joyce at *The Hatchet* pub in nearby Cranbourne for a very enjoyable evening meal. The majority also took part in a trial of a simple quadrat-based technique for recording bryophyte habitats on the Sunday morning. As described in one of the talks below, it is hoped to use a version of this technique for undertaking a BBS habitat survey of common British bryophytes.

Presentations, 11 March

For the Saturday session several speakers were given the brief of proposing ecological/biological projects that could form the basis of the group's activities. Others, including two guest speakers, Professor Grime and Dr Soudzilovskaia, reported on closely-related projects from which we could draw useful lessons. Brief summaries of the presentations are given below.