Sussex Botanical Recording Society

Newsletter

No. 63 http://www.sussexflora.org.uk January 2007

President's Message

At the autumn meetings the New Flora of Sussex Committee reported the good progress of the recording for the Flora. At the November Get-together Alan and Paul had prepared a summary of this progress, together with helpful instructions and requests for the next stages of recording. Their text is published in this newsletter, and we hope that all members are now looking forward to further recording early in the New Year, and with renewed enthusiasm. As we go to press the number of records in the New Flora database is 160,500. Congratulations and thanks to the Recorders and to all who have helped to achieve this encouraging total in three years.

Members tell me how much they enjoy the SBRS and the friendly contacts with other Sussex botanists and those interested in local wild flowers. For this the twice-yearly Newsletter is a vital link between members, and we warmly thank Frances, the editor, and Arthur, the producer and distributor, for their hard work, and for the pleasing publication which we all receive each January and May.

You will have noticed that we now have a logo, newly published on the heading of this Newsletter. It has been designed and drawn by Vanessa Stern, and the Committee members are very impressed by the quality of Vanessa's design – as I am sure that you will be too.

When a logo was first suggested, *Phyteuma orbiculare* (Round-headed Rampion) was unanimously chosen as the appropriate flower. Known in our two counties as the Pride of Sussex, this plant is nationally scarce and declining, but still has good populations on Sussex downland. The late Francis Rose spoke of the 'extraordinary abundance of this species on the South Downs of Sussex'. As you can imagine, it was not the easiest flower to draw and convert into a logo design! We have heard that this took 15 months, and send thanks to Vanessa for her time, and appreciation of her achievement.

Good wishes to all for 2007.

Mary Briggs

Secretary's Note

Dates for your Diary

Saturday 10th March 2007

The Annual General Meeting will be held at 2.00 pm at Staplefield Village Hall followed by a showing of members' slides and finishing with tea and biscuits. The hall will be available from 1.30 pm. Nominations for new committee members or officers, agreed by the nominee, should be sent to the Secretary a week before the A.G.M.

Saturday 3rd November 2007

The Autumn Get-together will be held in Staplefield Village Hall. The doors will be open from 10.00 am and the meeting will start at 10.30 am. There will be reports of field meetings and interesting records. Please remember to bring a packed lunch; tea or coffee and biscuits will be available. Members are invited to bring slides to show in the afternoon, books and plants for sale, and any items of interest or specimens for display.

Rita Hemsley

In This Issue

Newsletter Editor:
Frances Abraham, The Old School, Ebernoe, Petworth, West Sussex, GU28 9LD.
Email: frances.a@solutions-inc.co.uk

Field Meetings 2006: Reports

West Sussex VC13
by Nick Sturt

Star Copse, Harting 16th April

Six inches of snow on the county border near Tunbridge Wells a few days previously exemplified the tardiness of the season. Easter also late – so late that neither the leader nor the field convenor had realised that this first meeting fell on Easter Sunday. Having hastily postponed her family Easter egg hunt, Dawn led a party of fifteen into the woods to discover what seasonal plants had put their heads above the parapet. Forestry tracks tested the skills of vegetative diagnosis, for example *Carex strigosa* unmasked by Frances through the 'tram-lines' along the leaf blades. And so into Star Copse to wander over carpets of *Adoxa moschatellina* (Moschatel), *Anemone nemorosa* (Wood Anemone) and *Allium ursinum* (Ramsons). Much *Viola reichenbachiana* (Early Dog-violet), but scarcely any *V riviniana* (Common Dog-violet) yet. *Lathraea squamaria* (Toothwort) proved to be the most appreciated plant here, and there were many spikes peering pale-pinkly above the mats of spring green. The scent of the flowers could be described as 'sweet vanilla with fungal overtones', although I may be recalling a modest bottle of Egyptian Riesling.

Roman Woods and Oakwood 20th May

Unseasonal lows rolling in from the Atlantic, newspapers talking of a 'monsoon weekend'… yet somehow this joint meeting with our Surrey confrères escaped all but the merest sprinkle, at the beginning as Arthur marshalled his troops. Mud in Roman Woods: we slipped past a profusion of good sylvan species, including *Adoxa*, *Galium odoratum* (Woodruff), *Luzula forsteri* (Southern Woodrush), *Milium effusum* (Wood Millet), while individuals with their eyes not scouring the ground for herbaceous specimens and footholds managed to recognise both Hawthorn species and their hybrid. Lunch near or indeed inside the Scarlett Arms (I recall with fondness the Harvey's Sussex that Sophie so kindly bought me). The afternoon was spent in Surrey, happily rambling in the woods that surround the church of Oakwood. Trees were high on the agenda, with Rod demonstrating *Quercus* x *rosacea* and our Surrey leaders auditing the *Sorbus torminalis* (Wild Service Tree). The finale was a warm welcome from the owners of a delightful garden ablaze with Azaleas, whose lawn was dotted with spikes of *Orchis morio* (Green-winged Orchid).

TQ11: Ashington and environs 3rd June

The Venerable Knapp had spent many solitary hours in his cell planning the day's perambulations and it was time well spent indeed. The thirteen pilgrims who converged on Ashington were divided into three groups, equipped with maps and recording cards, and instructed to go forth and multiply the records for this relatively unvisited 10km square. The author found himself in excellent company – Rita, Dawn, Ernie and Tony, all of whom showed superhuman tolerance of their leader's lust for speed and largely refrained from any semblance of gloating as they pointed out all the species he had missed in his misguided haste to cover as much ground as possible. And lo! it came to pass that the dispersed bands did return at length and did exchange notes, as they ate of their packed luncheons in the shade of verdant shrubs. Each tetrad yielded around 150 species and each group had found some special plants, such as *Lathyrus nissolia* (Grass Vetchling) and *Sorbus torminalis*. A more sociable afternoon followed as we united to attack a fourth tetrad which included some interesting woodland with *Carex pallescens* (Pale Sedge). The day proved extremely productive in terms of records (in excess of 600) as well as extremely enjoyable.

Heyshott and Ambersham Commons 9th June

Gems from the word Go, as Bruce directed us to scour the bareish sandy ground around the cars for the likes of *Aira caryophyllea* (Silver Hair-grass), *Myosotis discolor* (Changing Forget-me-not) and *Trifolium subterraneum* (Subterranean Clover). He then led us by devious ways over Ambersham Common to survey bog bearing the tiny caltrops of *Carex echinata* (Star Sedge) and damp heath studded with the glistening tongues of *Drosera intermedia* (Oblong-leaved Sundew). Down to a stream area with woodland and more wet species such as *Dryopteris carthusiana* (Narrow Buckler-fern), then on to a forest ride where water seeped out and a hands-and-knees search produced *Anagallis tenella* (Bog Pimpernel) and the first leaves of *Radiola linoides* (Allseed); with *Scutellaria minor* (Lesser Skullcap) growing we suspected the presence of *Isolepis setacea* (Bristle Club-rush), which Mike Shaw obligingly found. And so, knocked out more by the plants than the heat, lunch in the shade. After which calcicoles, including *Blackstonia perfoliata* (Yellow-wort), along the embankment of the defunct railway, which was formed largely from chalk spoil from the cuttings around West Dean. Mike again produced an ace in the form of a sedge which we at length concluded to be *Carex muricata* subsp. *lamprocarpa* (Prickly Sedge). There was also the opportunity to pay homage to the leaves of *Wahlenbergia* (Ivy-leaved Bellflower), introduced on a damp roadside early in the 20th Century by friends of Rev Edgell.

Alan reckoned that the total number of species was 261, probably a Society record. In a former life, Bruce trained as a chef: the fifteen botanists who experienced the day will surely not disagree with me when I describe the meeting as a gourmet feast of flora.

Kithurst area 22nd July

The Roman poet Horace warned good folk to avoid the company of sinners lest they become collateral damage in a punishing bolt from Jupiter. As lightning crashed about us and we hastened to the shelter of our cars, I tried to guess which of the ten SBRS members had incurred his wrath. Our mission, to record the apparently unloved TQ01Q tetrad on top of the Downs,

had been abandoned after an hour and 99 species. Soaked and with further electrical activity heading in, the surprisingly merry band dispersed, leaving me alone with my thoughts. I was pretty certain by then that it was Beryl.

Selsey 2nd September

It was a very profitable day – 230 species for the principal tetrad and a further 90 for the auxiliary – but at times it was not comfortable work. The wind whipped across the shore, creating a nasty species of horizontal drizzle. Proceeding along East Beach native maritime plants rubbed shoulders with exotic garden escapes, such as *Cynara cardunculus* (Cardoon). Past metamorphosed railway carriage dwellings and out onto the beach to Severals Ponds, where we were greeted by large quantities of *Calamagrostis epigeios* (Wood Small-reed). A breakwater offered the sixteen-strong party almost adequate shelter from the elements; then back on task, finding *Carex divisa* (Divided Sedge) and *C. extensa* (Long-bracted Sedge), and Glassworts in variety: *Salicornia dolichostachya* (Long-spiked Glasswort), *S. ramosissima* (Purple Glasswort) and *Sarcocornia perennis* (Perennial Glasswort) around the edge of Pagham Harbour. Arthur and Frances made a detour to check on the Black Poplar, and then the return along farm tracks adding agricultural weeds. Judy is to be congratulated on masterminding this absorbing and useful meeting. Her leadership style was perfect: magisterial when necessary but generally enabling and unfailingly polite.

Stanley Common 1st October

Nine members of the amphibious wing of the Society had an exhilarating foray on the sandy high ground at the NW extreme of Sussex, intending to survey both vascular plants and bryophytes. Having parked in Hampshire at Highfield School (thanks to Bruce), we wandered over sports fields to enter the home county, and so battle commenced. A solitary specimen of *Stachys arvensis* (Field Woundwort) attracted interest, and then into the heathy woods where, according to the deplorable remarks of a few members who thoroughly deserve to be struck off, our esteemed Chairman summoned the rain. We were to have focused on mosses in the afternoon, but 'Rod proposes, Nature disposes' – or something like that. Deluges and hail, against which the holly thickets were no protection, thunder, lightning, a dead oak bough landing too close for comfort, waterlogged data… and so to lunch with a herd of Shetland cattle, old friends of Frances. We had time to admire a good selection of fungi, but it seemed better to give up on the bryophytes and drip our way back to the cars. Nevertheless, a haul of 120 vascular plant species, including *Impatiens parviflora* (Small Balsam), for this part-tetrad was more than respectable.

……

East Sussex VC14

by Pat Donovan and Rita Hemsley

Herstmonceux 6th May (PD)

Although 'tetrad bashing' may have its drawbacks, it certainly paid off at Herstmonceux when the sixteen members present split up in the morning and gathered nearly 500 records in four tetrads. Some of the interesting plants included the uncommon *Bromus racemosus* (Smooth Brome), *Valerianella locusta* (Common Cornsalad), *Ranunculus auricomus* (Wood Buttercup) and several records for *R. ficaria* ssp. *bulbifera* (Lesser Celandine).

After meeting up again for lunch, a visit was made to Wartling Wood to look for *Ranunculus tripartitus* (Three-lobed Crowfoot) which was last recorded in the 1990s; unfortunately the habitat must have changed as the wood was very dry and mainly carpeted with bluebells which, because there was no sun, were an intense blue. Their fragrance hung heavy on the air. In the one damp area the only plant of note was *Carex acutiformis* (Lesser Pond-sedge).

St Dunstan's Farm 28th May (PD)

After a gap of eleven years a return visit was made to David Hobden's farm at Punnett's Town. Being nearly a month earlier and following a cold spring may account for the fact that there were fewer plants recorded; some were not yet in flower, such as the Roses, including *R. tomentosa*, some were obviously missed, such as *Salix aurita* (Eared Willow), and one field was not visited.

However, the special plants were still in their right places: *Phyteuma spicatum* (Spiked Rampion) on the edge of the wood and, after some searching, *Carex pulicaris* (Flea Sedge) in the field above the wood. *Genista tinctoria* (Dyer's Greenweed) and *Succisa pratensis* (Devil's-bit Scabious) were in bud. According to David, the SSSI field is deteriorating in quality as no fertilisers are permitted, and the increase in *Rhinanthus minor* (Yellow-rattle) is diminishing the hay crop.

Many other natural history groups now visit the farm, and a building has been converted to accommodate them, with chairs, interpretation boards and tea/coffee-making facilities, for which we were all very grateful.

Wivelsfield 21st June (RH)

On a cool windy evening nine members met at Wivelsfield Church and immediately began recording the car park and roadside verges. Most notable along the verges were the large clumps of *Carex divulsa* ssp. *divulsa* (Grey Sedge) and some garden escapes. We spent some time recording in the churchyard, but it was too manicured for us to stay long. Going through a large meadow, and with the help of Beryl, we were able to add many grasses to our list, including *Alopecurus myosuroides* (Black Grass), *A. pratensis* (Meadow Foxtail) and *Phleum bertolonii* (Smaller Cat's-tail).

The ditches surrounding the next field gave us a good number of records, including several clumps of *Hypericum tetrapterum* (Square-stalked St John's-wort) and *Galium palustre* (Marsh Bedstraw). On the banks of the stream at the bottom of the field we found *Allium ursinum* (Ramsons). Turning north, we crossed another field to reach our last habitat, an old wood, where we recorded *Carex remota* (Remote Sedge), *C. sylvatica* (Wood Sedge), *Sanicula europaea* (Sanicle), *Hyacinthoides non-scripta* (Bluebell) and *Poa nemoralis* (Wood Meadow-grass).

Not anticipating, nor indeed finding, any unusual plants, we nevertheless added about 170 records to this tetrad in a chilly two hours.

Plumpton Agricultural College 25th June (RH)

This year Plumpton College updated an ecological survey that took place in 1982, and the purpose of this meeting was to record along the original routes taken in 1982/83 by the SBRS. At this time fourteen transects were covered and 259 species recorded. As the College estate covers a very large area it was necessary to split into two groups, some covering the fields, ponds and hedgerows as far as Streat to the north, and others climbing the Downs as far as Beech Wood well to the south of the South Downs Way. Separate recording cards were issued for each transect, and for the four tetrads that would be covered – a large task for one day.

A good number of members assembled and the majority of the group, having looked to the south and seen the steep escarpment to be climbed and recorded, chose to go north. A mature student from Plumpton accompanied this group and they were able to access all areas. This entailed a lot of repetitive recording of hedges and ponds that had become overgrown, leaving little time to reach some of the woods or accomplish any tetrad recording.

Four people went south and recorded steadily along the first transect, the roadside verges. Plumpton Bostal provided a good number of species, including *Campanula trachelium* (Nettle-leaved Bellflower), *Dactylorhiza fuchsii* (Common Spotted-orchid), and *Chaerophyllum temulentum* (Rough Chervil). As we climbed on to open downland, we were rewarded with *Briza media* (Quaking Grass), *Blackstonia perfoliata* (Yellow-wort), and *Gymnadenia conopsea* ssp. *conopsea* (Fragrant Orchid), and we had our lunch amongst *Phyteuma orbiculare* (Round-headed Rampion) and other downland flowers. We overlooked Plumpton College but could not see our recording colleagues.

Once on the South Downs Way there were more transects to record, giving us *Ophrys apifera* (Bee Orchid) and *Silene* x *hampeana* (hybrid Campion), plus its parents. We passed arable fields, where Tony found *Legousia hybrida* (Venus's-looking-glass). We carved our way through a field where the original path had disappeared, determined to reach Beech Wood on the southernmost perimeter of the Plumpton Estate, only to find that it was heavily grazed by cattle. We did however see *Asplenium adiantum-nigrum* (Black Spleenwort), and were able to record our second tetrad for the day.

Having agreed to return by 4.00pm in time for members to watch England lose at football, we hurried back while still recording yet another transect.

The results of the surveys were put on a spread sheet with the 1982 survey for comparison by Petra Billings, Head of Higher Education, and we were thanked for our help and issued with an invitation to return next year if we wish to complete the two northern tetrads.

Sheffield Forest 3rd July (PD)

An additional meeting took place in July with just six members on a day that promised to be very warm. Initially there was some shade from tall conifers, but the rides soon opened up, with ditches on either side in which were *Carex pallescens* (Pale Sedge), *C. laevigata* (Smooth-stalked Sedge), *Scutellaria minor* (Lesser Skullcap) and *Hydrocotyle vulgaris* (Marsh Pennywort). *Potamogeton polygonifolius* (Bog Pondweed) was found in a small pond; close by was a pair of White Admirals. Patches of open sandy ground had abundant *Centaurium pulchellum* (Slender Centaury), and both *Euphrasia anglica* and *E. nemorosa* (Eyebright species)

The meeting ended shortly after lunch when the heat became too oppressive, and it was realised that there would be insufficient time to reach the lakes.

Iden 12th August (PD)

On a day when rain was forecast by lunchtime, ten members met at Iden Church and proceeded to spread themselves among four tetrads, gathering 420 records between them.

In TQ92C a wide ditch by the Rother yielded *Oenanthe aquatica* (Fine-leaved Water-dropwort), *Cyperus longus* (Galingale), *Althaea officinalis* (Marshmallow) and *Menyanthes trifoliata* (Bogbean, probably introduced). In the parking area nearby David Lang found six dead spikes of *Ophrys apifera* (Bee Orchid), and not far away was the attractive grass *Lagurus ovatus* (Hare's-tail). Arthur's group found *Stachys arvensis* (Field Woundwort) and *Erysimum cheiranthoides* (Treacle Mustard), and returned with a very long, narrow leaf which subsequently proved to be *Inula helenium* (Elecampane).

Prunus domestica was fruiting abundantly in the hedges in three out of four tetrads, confirming 2006 as a 'good year for plums'. At lunchtime the rain appeared on cue and stopped play for the day. As frequently happens the weather improved on the way home and, on being held up by the level-crossing at Etchingham Station, Alan dived into the car park where 112 species were recorded in less than half an hour.

Possingworth Park 19th August (PD)
Nineteen members came to Possingworth to join in the search for *Sibthorpia europaea* (Cornish Moneywort), last seen in the 1970s in a damp shady place near the east end of the lake. This area is now open, bereft of most trees following the great storm of 1987, and much drier, with *Carex binervis* (Green-ribbed Sedge) the most common species. The end of the lake was choked with *Crassula helmsii* (New Zealand Pigmyweed) and *Myriophyllum aquaticum* (Parrot's-feather), but in a patch of mud near the landing stage there was the rare *Elatine hexandra* (Six-stamened Waterwort). This was a new record, with only four others in the *Sussex Rare Plant Register* and nine in the *Sussex Plant Atlas*. A small piece was extracted and passed around for close scrutiny before being replaced in the mud. In the smaller ponds natives included *Mentha* x *piperata* (Peppermint) and *Carex pseudocyperus* (Cyperus Sedge). There were some introductions such as *Gunnera* sp. (Giant-rhubarb), *Aponogeton distachyos* (Cape-pondweed), *Crocosmia* sp. (Montbretia) and, in the rides, *Geranium pratense* (Meadow Crane's-bill) and *Heracleum mantegazzianum* (Giant Hogweed), as well as one oddity *Helianthemum nummularium* (Common Rockrose).

Missing Mistletoe
by Alan Knapp

For those of you who are missing the fun of recording in the winter, here's a winter challenge. Thirty five tetrads which had *Viscum album* (Mistletoe) recorded in them in the *Sussex Plant Atlas* have not yet had a record in our current flora recording. As *Viscum album* is much easier to see in the winter, let's see how many of these missing records for mistletoe can be refound this winter. Please let Paul or Alan know if you find it in any of these tetrads (preferably with a 6 or more figure grid ref. so that future recorders can refind it with ease) and also, if possible, what the host tree is. The missing tetrads are as follows.

West Sussex: SU71W, SU72X, SU80Z, SU82D, SU82J, SU90H, SU91E, TQ00E, TQ01F, TQ10C, TQ10G, TQ10L, TQ11L, TQ12I, TQ12R, TQ12U, TQ12V, TQ12W, TQ13L, TQ13V, TQ23A

East Sussex: TQ33D, TQ50F, TQ50G, TQ53Y, TQ62S, TQ70I, TQ71I, TQ72D, TQ72G, TQ72N, TQ81B, TQ81J, TQ81U, TQ92A, TQ92B, TQ92G

Winter Recording
by Alan Knapp

Although not the most popular time of year for botanical recording, getting out in the winter can provide some very useful records which might otherwise be missed, as some species are as visible or more visible than at other times of the year. It also helps to remove the effects of any excesses of Christmas and you can sometimes discover interesting-looking areas which are worth a visit at another time of year. The most obvious winter species is *Viscum album* (Mistletoe) which is the subject of the specific request above. However, several other species such as *Ruscus aculeatus* (Butcher's-broom) and *Daphne laureola* (Spurge Laurel) are often more visible in bare winter woodland than they are in the spring as other plants appear. A number of ferns survive most winters and can be identified as easily as at any other time. In January and February there are also the early spring species which are mainly introductions but still need to be recorded. These include *Eranthis hyemalis* (Winter Aconite), *Crocus*, and *Galanthus* (Snowdrop) species.

Treasurer's note

Subscriptions for 2007 continue to remain at £3.00 for an individual and £4.50 for joint membership at one address. Payment may be made to me at the AGM in March or sent to me. If anyone has not paid their subscription for 2006 will they please either send me a cheque for two years' subscriptions or pay at the AGM. Thank you.

Trevor Lording

Obituary:
Francis Rose 1921-2006
by David Streeter

Francis Rose died on 15 July last year. In his obituary for *The Guardian* Peter Marren wrote that he 'was regarded by many as the greatest British field botanist of our time; possibly the greatest in the past century'. It was our good fortune that his home territory happened to be the downs and weald of south-east England and he had a particular affection for Sussex. So it is that for us the sense of loss is particularly acute.

Francis was born in south London in 1921, where his interest in botany was first awakened by a naturalist grandfather who took him for country walks at the advanced age of five! He claimed to possess a photo of himself, aged eight, collecting plants in the Alken Valley in Kent and holding a specimen recognisable as *Mentha rotundifolia*! Although there was no biology taught at his Roman Catholic school he went up to London University to read Botany in 1938, first at the Chelsea Polytechnic and then Queen Mary College, from where he graduated in 1941. After wartime work testing explosives, he spent two years at Sir John Cass College as lecturer in botany before moving to Bedford College in 1949, where he stayed for the next fifteen years.

Here he developed his early research interest in the ecology of bogs and fens, for which he was awarded his PhD in 1953 for his thesis *A Survey of the British Lowland Bogs.* He was later to develop this work with the assistance of a young research student called David Bellamy. During this time Francis' home was at East Malling in Kent, which was the base from where he explored the Kent and Sussex countryside, frequently in the company of the late E.C. (Ted) Wallace and R.A. (Ron) Boniface. It was Ted Wallace who was chiefly influential in stimulating Francis' interest in bryophytes in about 1946. Within three years he had published the first part of his *Bryophyte Flora of Kent*, eventually completed in three parts in 1951.

Francis was fascinated by problems in plant geography and particularly in what in biogeography are termed 'disjunct' distributions, where species occur in restricted isolated areas outside their main centres of distribution. Why, for instance, is *Pulsatilla* (Pasque-flower) widespread on the chalk of the Pas de Calais but absent from the North and South Downs, reappearing again in the Chilterns north of the Thames? His comparisons of the flora of SE England and northern France appeared in a number of papers, written in collaboration with his friend Prof. Jean-Marie Géhu, in the *Bulletin de la Société de Botanique du Nord de la France* during the 1960s. Another of his particular interests was the central wealden sandrocks, famous for the Tunbridge Filmy-fern and their rich bryophyte flora. He explored all the known outcrops, refinding most of the species recorded by W.E.Nicholson at the beginning of the last century and discovering new colonies of the *Hymenophyllum*. He also demonstrated the widespread occurrence of *Dryopteris aemula* (Hay-scented buckler-fern) in these deep wealden ravines, a plant that Wolley-Dodd described as 'rare'. Francis interpreted the occurrence of these 'Atlantic' species as relics of a wider distribution during the post-glacial Atlantic period around 6,000 BP.

Living where he did in East Kent, a special interest in orchids was inevitable. I suspect that his particular favourite was the Lady Orchid, so characteristic of the chalk woodlands of the North Downs in Kent. He wrote the *Biological Flora* account of the species in 1948, noting morphological differences between the populations on either side of the Stour valley. He also formally described the northern form of the Fragrant Orchid as a separate subspecies, *Gymnadenia conopsea* ssp. *borealis*, recently raised to the level of a full species. My last full day out with him was when I took him to see the Military Orchids in Home Wood in 2004.

In 1964 Francis moved to Kings College London as senior lecturer in Biogeography. He was appointed University Reader in 1975, a post that he occupied until his retirement in 1981. It was also from about the mid 1960s that his increasing interest in lichens developed, encouraged by the late T.D.V. (Dougal) Swinscow and Peter James. This coincided with an involvement in the use of plants as bioindicators of past and present environmental conditions. With David Hawksworth he was one of the first to demonstrate the value of lichens growing on tree trunks as sensitive indicators of specific levels of atmospheric sulphur pollution. He also showed that forest lichens were not only sensitive to air quality, but that certain species were only to be found in ancient undisturbed woodland, which enabled him to construct a series of 'indices of ecological continuity', a technique that he later extended to higher plants.

Francis moved to Liss in the early 1960s, which was a convenient distance from the new field station at Rogate that Kings College had recently opened. Hampshire, and especially the New Forest, as well as West Sussex, were now much more accessible. He produced two important reports for the West Sussex County Council; one on the Greensand heaths in 1992 and the other on the bryophytes and lichens of the West Sussex chalk grassland in 1993. His second county bryophyte flora came in 1991 with the *Atlas of Sussex mosses, liverworts and lichens* with Rod Stern, Howard Matcham and Brian Coppins, published by the Booth Museum. Francis' introductory chapter on the geography and ecology of the county is still the best that there is and was republished as a separate booklet by the Booth in 1996. Another fascinating insight into the ecological history of the county emerged when his more intensive exploration of the scarp face woodlands of the Sussex/Hampshire border with Frances Abraham revealed unsuspected populations of Large-leaved Lime, with interesting implications for the nature of the chalk 'wildwood'.

Francis was deeply committed to the cause of conservation, for which he campaigned vigorously. He was chairman of the Kent Wildlife Trust in the early 1960s and was an honorary life member of the Sussex Wildlife Trust. He was also a founder member of Plantlife and an ardent supporter of the campaigns to establish national parks in the New Forest and the South Downs. The files of the regional offices of the old NCC are full of his site reports that formed the basis of a good proportion of the early SSSI designations.

Francis' reputation as a field botanist was legendary. He had an encyclopaedic knowledge of the flora of western Europe that was probably unmatched, and his enthusiasm made him an inspirational teacher. No matter on how many previous occasions he had expounded on a particular plant, each re-acquaintance would be infused with the excitement of a first meeting. Also, he had an extraordinary 'eye for habitat', which enabled him to predict the occurrence of a rare species with an astonishing (and sometimes infuriating!) degree of accuracy. His *Wild Flower Key*, first published in 1981 and recently revised by Clare O'Reilly, is one of his most valuable legacies. It is widely recognised as the best field guide in the business.

His other important legacy is his field notebooks and record cards. The 200 or so notebooks, commencing in 1944 and containing about 250,000 individual records, are held by the National Museums and Galleries of Wales, together with the bulk of his herbarium. The notebooks have been transcribed by Judith Church and computerised by the Sussex Biodiversity Records Centre. The total number of Sussex records is in excess of 55,000.

Francis was an honorary member of the BSBI, the British Bryological Society and the British Lichen Society; the only botanist ever to have been elected an honorary member of all three societies. He was appointed MBE in 2000 and received the Wildlife Trust's Christopher Cadbury Medal the following year. In 2003 the Royal Botanic Gardens, Kew established the Francis Rose reserve at Wakehurst Place, the first nature reserve in Europe to be dedicated to mosses, liverworts, lichens and ferns. His name is celebrated in two species of lichen: *Phyllopsora rosei* and *Porina rosei*.

Francis was great company both in the field and in the pub afterwards. Field trips on which he was expected were always the best attended. A larger than life character with a genial disposition and a sometimes wicked sense of fun. We all cherish our own special memories. Many of the apparently apocryphal stories told about him were in fact true! My first trip with him was as a sixth former more than 50 years ago on a cold December 29th. 4.00 pm found us at the foot of the waterfall in the Duddleswell ravine on Ashdown Forest searching for *Diphyscium foliosum* - by match light!

Throughout his life Francis was supported by his devoted wife Pauline Wendy. In his message to his 80th birthday conference at Cardiff he wrote, 'I would like to express my heartfelt thanks to Pauline Wendy, my wife, for all her help and encouragement over nearly sixty years. Without this I would not have achieved very much'. To her, together with Anna, Nicholas, Andrew and Edmund, we extend our sympathies.

Notes on the identification of some difficult species

by Alan Knapp

This is the first of a series of notes which will be appearing in the Newsletter aimed at helping with the identification of species which cause problems, especially where there are pairs of closely related species which can easily be confused. These notes should be used in conjunction with other information, especially the Floras by Stace and the *Plant Crib*. NB that parts of the *Plant Crib* are now available on the BSBI website: www.bsbi.org.uk/html/plant_crib.html, and the appropriate sections are referred to below.

Epilobium obscurum / Epilobium tetragonum

These are both quite common but can be hard to distinguish. The key difference between them is the presence of glandular hairs just around the base of the calyx and sometimes on the fruit in *E. obscurum*. They are, however, easy to miss, so look very carefully with at least a x10 lens. If you can't find any hairs and think you have *E. tetragonum* check more than one flower. If you find glandular hairs then it is clearly *E. obscurum*. (assuming you have already eliminated all other *Epilobium* species!)

***Epilobium palustre* / other *Epilobium* species.**

Epilobium palustre is extremely scarce in Sussex and some (or possibly many) past records are errors (probably for *E. obscurum*) but it may be overlooked, so please examine *Epilobium* plants with pale flowers found in very wet areas carefully. A useful initial indication is that the heads of *E. palustre* are very droopy and the flowers are a very pale colour. To be certain, in addition to other features mentioned in most keys, you must examine the seeds. The seeds of *E. palustre* have a small appendage between the top of the seed and the hairs. Stace shows a picture of the seeds of *E. palustre* in which this appendage can be clearly seen.

Juncus acutiflorus / Juncus articulatus

These species cannot be reliably distinguished by vegetative characters – you must have flowers and/or fruits. The shape of the tepals (see Stace key) is the best character but can be quite difficult. The shape of the fruiting capsule in good condition can also be used. The tepals in the species are in two sets of three (inner and outer). All of the tepals of *J. acutiflorus* are acuminate and have more or less recurved apical points (sometimes the recurving is pretty obscure). Also the fruiting capsule is acuminate. In *J. articulatus* the tepals do not have recurved points, the outer tepals are acute but the inner tepals are often less acute. The fruiting capsule is mucronate, i.e. the top is rounded to acute with a distinct short point (see drawings in *Plant Crib 1998*). These distinctions need careful observation but do seem to work well once you become familiar with the species. Finally it should be remembered that these two hybridise and the resulting hybrid, *Juncus* x *surrejanus*, is quite probably common although we have very few records for it. See notes on p.330 of *Plant Crib 1998* or section 5 of: www.bsbi.org.uk/Juncus.pdf for more information

Lemna minor / Lemna minuta

There are problems here, and populations of smaller plants found in autumn or winter cannot be reliably identified. Plants of *L. minor* with larger fronds can be easily differentiated from *L. minuta*: if the fronds are >3.5 mm long then it is *L. minor*. However, differentiating young *L. minor* from *L. minuta* is difficult. The fact that *L. minor* fronds have three veins but *L. minuta* fronds have only one would be a good character if you could see the veins. It is very difficult to see the three veins in healthy plants of *L. minor*. However the single vein of *L. minuta* is a little easier to

make out. Look carefully from various angles in good light and you may see a single line or low ridge down the middle of the upper surface of the frond.

***Typha angustifolia* / *Typha* x *glauca* (*T.latifolia* x *T.angustifolia*)**

Although locally common in a few places, *Typha angustifolia* is rather scarce in most of Sussex while the hybrid is commoner than you may think. The presence of a gap between the male and female parts of the inflorescence only means that the plant is not *Typha latifolia*. To be sure that it is *T. angustifolia* you must first measure the leaf width. If it is 6mm or less (which is very narrow) then you have *T. angustifolia* but if it's a bit wider it could be either. Towards the end of the summer you can check if the heads are fertile as *T.* x *glauca*.is sterile. Collect a head or two, make a clean cut across the diameter and look at the cut face for the presence of seeds near the centre (you need to look very carefully with a lens as they are small and can be hard to see). If they are present the plant is definitely *T. angustifolia*. If absent, try cutting in other places and look again to confirm sterilty.

Draft species accounts for the new flora

by Alan Knapp & Paul Harmes

As many of you have been busy recording for the *New Flora of Sussex*, we thought that you would like to see that we are already thinking about the structure of the *Flora* and to see some examples of working drafts of proposed species accounts. The purpose of these drafts is to illustrate the content of the species accounts. The accounts and maps are based on current information and will evolve as new distribution information and records become available. Also the layout (size, quality of maps etc.) will be different. Therefore, please look at the type of content and structure rather than the details, as we would welcome suggestions for improvements. If you have any suggestions, please put them in writing and send or email them to Frances Abraham.

In the Flora a list of abbreviations, references and definition will be given in the introduction. A list of recorders' initials will also be included but are not given here. In the accounts included here the following abbreviations have been used:

First records:

SPA: Hall, P.C. (1980). *Sussex Plant Atlas*. Booth Museum of Natural History, Brighton.

W-D: Wolley-Dod, Lieut.-Colonel A.H. ed. (1937). *Flora of Sussex*. Saville, Hastings. Reprinted The Chatford House Press, Bristol.

References:

Briggs, M. (1990). *Sussex Plant Atlas: Selective Supplement*. Borough of Brighton, Booth Museum of Natural History, Brighton

Definitions:

Archaeophyte: Alien introduced into Britain before 1500

Neophyte: Alien introduced into Britain after 1500

1st notice: The first record of the species where this has not been published (e.g. as a herbarium sample). Only given if it pre-dates the first published record.

1st record: The first example of a published record for the species

APIACEAE (Carrot family)

Bupleurum baldense Turra (*B. opacum* Lange., *B. aristatum* Auct. Non Bartl.) Small Hare's-ear

Native

Red Data List 2005: Vulnerable; Sch. 8

1st record 1862, Downs near Beachy Head, 1860, Rev.E.A.Holmes in Bab. *Man* 5th edn [W-D p197]

Thin crumbling soil on nearly bare chalk

In mainland Britain, this tiny annual is at the extreme northern edge of its European range and is only known from Berry Head near Brixham in South Devon and near Eastbourne in East Sussex. In Sussex it is confined to a single patch of eroding chalk on the very edge of the cliff above Shooters Bottom, to the west of Beachy Head.

The plants are restricted to an area approximately 20 metres long and occur in a strip within half a metre of the edge of the cliff. The area where it grows is constantly falling away as the cliff erodes and, in the past, this lead to the belief that it might disappear. This has not happened and it seems likely that wind blows seed inland where it remains in the chalk turf but is unable to germinate until the area starts to erode, producing patches of bare chalk where there is little or no competition. Small plants of *Euphorbia exigua* are common in this area and can easily be confused with the *Bupleurum*. Other associates include *Asperula cynanchica, Bromus hordeaceus, Carlina vulgaris, Diplotaxis muralis, Echium vulgare, Festuca ovina and Koeleria macrantha.*

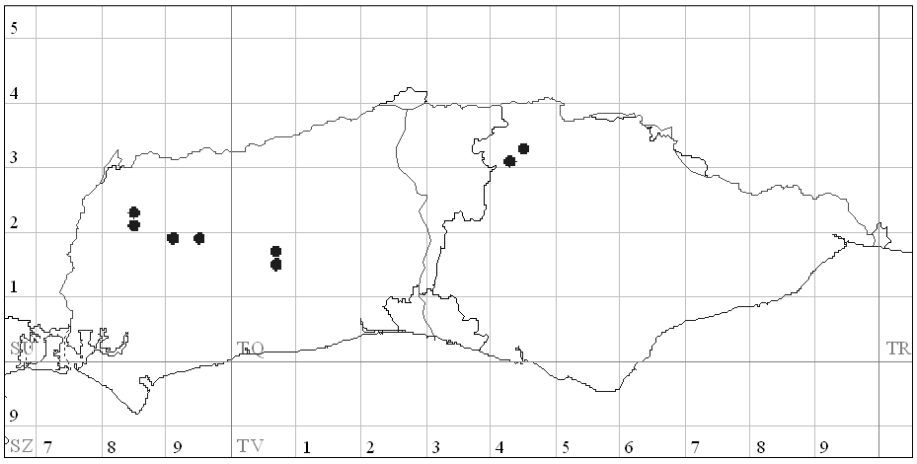
In the past flowering plants were mostly recorded in June but recently they have appeared in May, especially in years with a warm, wet spring, and have often disappeared by mid-June. The species was feared extinct for some years until refound at Beachy Head by DM in 1980. The size of the population fluctuates greatly from year to year and counts have varied between zero and 425 plants (Briggs 1990).

VC14: Above Shooters Bottom; PAH, May 2006. TV57-95-

DROSERACEAE (Sundew family)

Drosera intermedia Hayne (*Drosera longifolia* L., pro parte) Oblong-leaved Sundew

Drosera intermedia



Native

1st notice 1714, Bog on Westfield Down near Hastings, 1st record 1789, in the Weald Brooks, *Gough Camden*. [W-D p184]

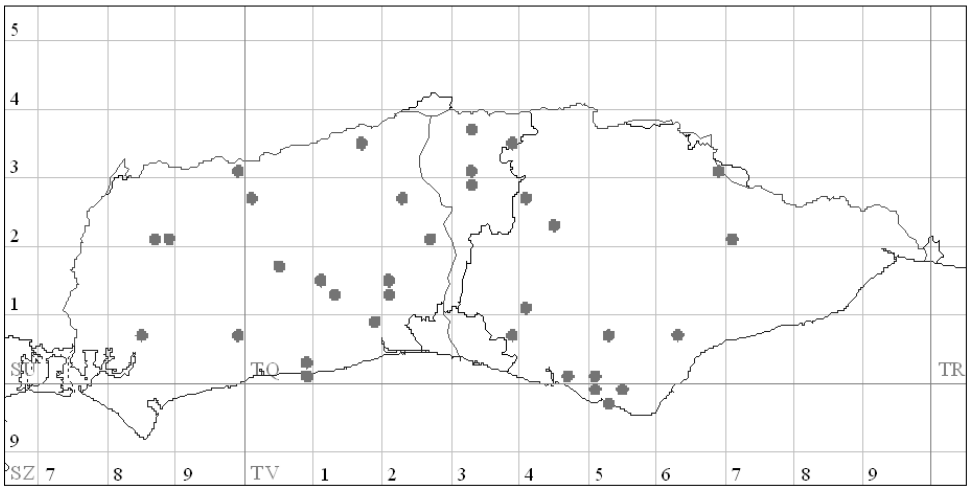
Open acidic boggy areas of heathland, often with *D.rotundifolia* but much less common.

Drosera intermedia has never been common due to its specialised habitat requirements, and it is now restricted to a few sites scattered along the Lower Greensand to the west of West Chiltington (VC13) and to a cluster of sites in Ashdown Forest on the Ashdown Sands (VC14). It has declined in the last 30 years from 12W/4E tetrads (SPA) to 6W/2E tetrads in our survey, which is almost certainly due to a combination of drainage, encroachment by scrub, and lack of grazing livestock or other means of creating patches of open damp ground. It has successfully colonised small scrapes on Iping Common (vc13), and vehicle tracks on Stedham Common nearby. Rich *et al.* (1996) suggest that trampling is important to maintain the right habitat, with both too much or too little trampling being a potential problem.

CRASSULACEAE (Stonecrop family)

Crassula helmsii (Kirk) Cockayne (*Crassula recurva* (Hook. f.) Ostenf. non N.E. Br., *Tillaea recurva* (Hook. f.) Hook. f.) New Zealand Pigmyweed

Crassula helmsii



Neophyte

1st record 1965, Wet ground by a spring above Newhaven TQ40F, W.H.Spreadbury, SPA p.63.

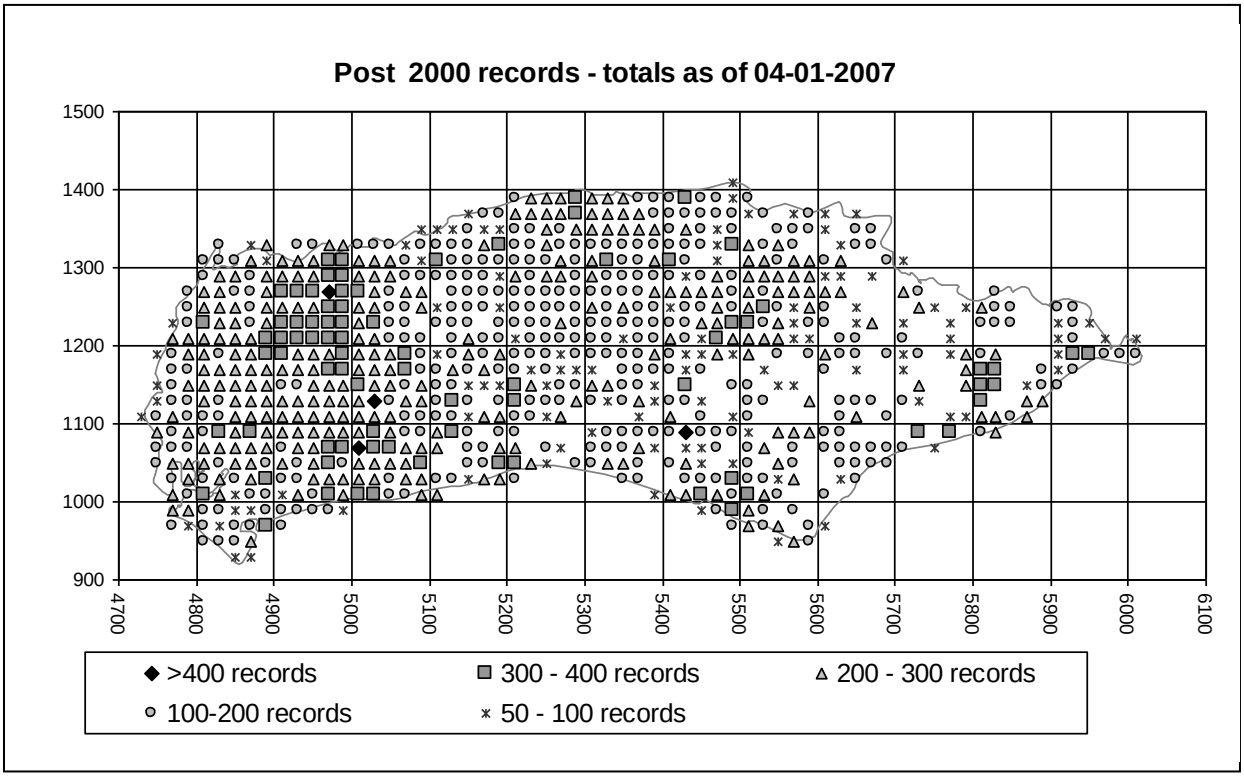
Ponds, ditches, and margins of reservoirs.

Although known in Sussex for only a little over 40 years, this plant is now scattered across the whole county and is a menace in many places, often forming a dense sward on the edges of ponds and reservoirs and sometimes spreading into adjacent wet grassland. In some cases it completely fills small ponds. It also occasionally occurs in ditches together with other aquatics but there it is rarely dominant. Sold in garden centres, it probably originates from dumping of waste from garden ponds. As it easily spreads vegetatively it is likely that, in many places, it has been spread from its original sites by small pieces of plant carried by people, birds or animals. Although numbers can vary from year to year it appears to persist for long periods once introduced. In some cases it has caused the reduction or elimination of native vegetation. For example, at Broadmare Common near Henfield, a small pond containing a population of *Apium inundatum* is now completely filled with *Crassula.* The *Apium* is greatly reduced and may now be extinct. Another example is on the margins of Ardingly Reservoir; *Crassula* is competing directly with *Littorella uniflora,* which still survives but in reduced numbers.

Progress towards a new Flora of Sussex

by the New Flora Committee

Once again many of you have done an excellent job and have been working hard recording for our new Flora. The situation at the beginning of January is that the number of records already entered into the computer is 160,500 and there are a number of record cards still to be entered, so we can expect that the total at the end of 2006 will be well above this. We will of course give a further update at the AGM next year, and a note of the final totals will be posted in the News section of our website as soon as we have entered all the records. The total at the end of 2005 was 101,700 so we have generated over 58,000 records this year. The map summarises the situation on 4th January:



The table below shows how the number of tetrads with various numbers of records has changed during the year:

Records per tetrad	**<50**	**50-100**	**100-200**	**200-300**	**300-400**	**>400**
January 2006	379	115	290	190	47	4
December 2006	173	115	370	284	79	4

The good news is that more than 200 tetrads which had not previously been visited have had at least one visit this year, and the number of tetrads with more than our target figure of 300 records has risen by over 50%, from 51 to 83. However this means that only 8% of the tetrads have reached our target! This may well rise a little as the remaining records are entered but shows that we still have a long way to go.

One further interesting statistic is that since 2000 the number of species recorded is 1069 native species and 867 alien species (*Rubus* microspecies are not included).

There have, once again, been a number of very interesting new finds, such as the re-discovery of *Dianthus armeria* near Eastbourne (last seen in the 1950s), the discovery of a new site for *Crassula tillaea* on Chapel Common, and the re-appearance of *Bromus arvensis*, an attractive alien grass last seen in Sussex in 1969. More details of these and other interesting 2006 records will be given in the Spring 2007 Newsletter.

We have also made considerable progress in deciding the form of the Flora itself and, so that you can see where we are, we include some draft species accounts in this newsletter.

Please carry on recording and, for 2007, we would like to ask you to focus on the following:

1. Try to record in as many tetrads with less than 100 records as you can. These are the tetrads which are blank or marked with a ∗ symbol on the attached map.
2. If you return to tetrads already visited, try to go at a different time of year - many tetrads have only had one visit. Details of the months when tetrads have been visited are given at the top of the species lists for each tetrad which you can download from our web site (or contact Alan Knapp if you do not have access to the Internet).
3. Search for records in the *Sussex Rare Plant Register* which have not been recorded after 2000. There are well over 1000 records still to be checked. There is a list available for download from the website but it has not yet been updated with our 2006 data, so please keep an eye on the News section of the website where there will be a message once the updated version is available. If you want to be doing something during the winter try re-finding some of the sites for *Dryopteris aemula* as almost none of them have been revisited since 2000.

We have one additional request regarding the submission of records. When entering our records for the Flora onto computer each record must have a named location - the grid ref. or tetrad alone is not enough. Locations are quite often omitted from odd extra records we receive and occasionally also from record cards. For tetrads please select a name which is as specific as possible but covers the whole area you have recorded. For example if you recorded tetrad TQ21D and only went around Henfield town then the location would be Henfield but if some of your recording was in the area around Henfield then use something like ‘Henfield are’ or ‘NW of Henfield’.

Also remember that you can do some very worthwhile recording during the winter - see note elsewhere in this newsletter. All records are useful.

Finally - many, many thanks to all of you who have contributed to this project during the year - please keep going and have fun.

FIELD MEETINGS 2007

Saturday 21 April Alan Knapp	**Tetrad recording in TQ12**. Park in lay-bys N and S of T-junction at TQ113264, NE of Billingshurst: easiest access E from A29 along New Road. Recording different tetrads in groups in the morning, uniting in the afternoon.
Saturday 28 April Rachel Nicholson	**The High Weald in Spring**. Meet at Stonegate Station TQ658272, 3 miles N of A265. Turn right immediately after railway bridge (station sign obscured!). Be prepared for stiles and mud…
Sunday 20 May Nick Sturt and John Patmore	**Worth Forest**. Meet at Greentrees Farm TQ295327, turning NW off B2110 at minor crossroads. Steep ghyll woodland in part of SSSI with considerable cryptogram interest. Terrain difficult.
Saturday 2 June Pat Donovan	**Meadows on the Beech Farm Estate** N of Ashburnham. From crossroads on B2096 at Wood's Corner take road S; in 1 1/4 miles turn left into Lakehurst Lane. Drive on and park at TQ688175.
Saturday 16 June Bruce Middleton	**Midhurst Common**. A variety of interesting habitats, including dry and damp heath, all in a compact area. Small public car-park off Severals Road at SU870207.
Saturday 30 June Frances Winch	**Near Beckley.** Turn S off A268 at Four Oaks into Bixley Lane. Meet in small car-park at TQ860226.
Saturday 14 July Helen Proctor	**Lower Dicker, W of Hailsham**. Tetrad recording in a neglected area. Turn off A22 at TQ558116 at signpost to Hackhurst Lane Industrial Estate. Park at Hackhurst Stud at TQ560122,
Sat 28 July Alan Knapp	**Meet in car-park of Battle Great Wood** in Marley Lane TQ765164. Another of Alan's tactical operations: manoeuvres in groups in the morning, joining forces for the afternoon exercise.
Sunday 19 August Anne de Potier	**Thorney Island**. Turn S off A259 into Thorney Road, meet at junction with Thornham Lane, SU757049. From here we shall move onto the island in convoy. **NB MOD land: please supply registration, colour and make of car to Nick Sturt by 31 July.**
Sunday 2 Sept Dawn Nelson	**Durleighmarsh Farm**. Arable fields and other habitats on sandy soil. The farm shop is well sign-posted on A272 approx. 1 1/2 miles W of Rogate. Park at bottom end of car-park, SU784234.

All meetings start at 10.45. Since some of the venues have limited parking, and for environmental reasons, members are encouraged to share cars whenever possible.

Those attending SBRS field meetings do so at their own risk.