



The Botanical Society of Scotland is a Charity
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Front cover pictures

Inside:

top left: Martin's Ramping-fumitory (*Fumaria reuteri*), showing the typical

colour of the inflorescence, the smooth sepals and the gap between the end of the sepal and the spur. (Photograph by Heather McHaffie from a plant in cultivation at RBGE)

top right: Shunters Wud, Darnick Community Woodland.
(Photo: A.T. Sumner)

centre right: Little-visited section, Gordon Community Woodland.
(Photo: A.T. Sumner)

bottom right: Recently planted area beside established woodland, Crossgates Community Woodland. (Photo: A.T. Sumner)

bottom left: Photograph by Toshie Mizunuma, on the theme of 'Visiting Flowers'.

Outside: Photograph on the theme of 'Visiting Flowers', by Toshie Mizunuma.

This picture and the one on the inside cover were shown at the BSS Student

Symposium, September, 2009 (report on page 51).

Botanical Society of Scotland,
(Incorporating the Cryptogamic Society of Scotland),
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BSS website: <http://www.botanical-society-scotland.org.uk>

RBGE website: <http://www.rbge.org.uk>

Founded in 1836 as the Botanical Society of Edinburgh, the Society became the Botanical Society of Scotland in 1991. Meetings are held in Edinburgh, Glasgow, Aberdeen, Dundee, St. Andrews and Inverness. The Society incorporates the Cryptogamic Society of Scotland and so encourages the study of flowering and non-flowering plants. Activities of the Society include lectures, field meetings, symposia, surveys, and an annual exhibition meeting for exchange of information between botanists working in different areas. All people interested in plants are welcome to be members of the Society, including professional academic plant scientists, amateur field botanists and students. All members receive information about events of the Society, including programmes of lectures and field meetings, as well as a twice-yearly newsletter, *BSS News*. Standard membership also includes the scientific journal: *Plant Ecology & Diversity*, published by the Botanical Society of Scotland and Taylor & Francis.

Applications for membership of the Botanical Society of Scotland should be made to the Hon. General Secretary at the address at the top of this page. Please ask for a Banker's Order form if required.

Subscriptions fall due on 1st October each year, and the annual rates are currently as follows, but may be increasing in 2010:

Standard rate	£32.00
Standard rate for undergraduate students	£28.00
Basic rate (without the journal)	£15.00
Basic undergraduate student rate (without the journal)	£2.00

Subscriptions can be paid by cash, cheque (payable to the Botanical Society of Scotland), or Banker's Order.

BSS NEWS

The Newsletter of the Botanical Society of Scotland
ISSN 0967-5922

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Aims

The chief aims of BSS News are to communicate with the membership, to keep members informed and to act as a vehicle for members' contributions on all things botanical. By this means members can keep in touch with each other. There is also a further aim of providing interest, entertainment and stimulation for BSS members. Sometimes this may involve contributions from non-members. All contributions are welcome.

Scope

The content of BSS News is as kaleidoscopic as possible around the botanical theme and I am keen for this variety to continue. A list of ideas for contributions was published in BSS News No. 75 and has since been reproduced on the BSS website (www.botsocscot.org.uk). Here is the list again, but please don't feel constrained by it. New ideas are encouraged.

- Reports of field excursions (leaders please take note) picking out the botanical highlights.
- Descriptions and recommendations of other botanical sites in the UK or abroad. (It might help people to plan their holidays.)
- Articles of current or historical interest, including ethno- and archaeo-botany.
- Biographical profiles of botanists.
- Botanical poems.
- Botanical notes, news items, announcements of future events, reports of meetings attended, correspondence, small ads., etc.
- Book reviews.
- Crosswords and quizzes.
- Illustrations, including paintings, photographs and line drawings (the latter to be in black ink on white paper). Subjects could include

plants, habitats, people, events, or even witty cartoons if they are your forte!

Guidelines for contributors

Don't worry if you cannot comply with all the following guidelines. Just send what you can and the Editor will make adjustments.

Text

The Newsletter is set up on a PC and saved as a document in MS Word 2007. Although it is printed on A5 pages it is set up on A4 pages using Myriad Pro font (size 15 for major text). Margins are set at 2 cm (sides), and 2.5 cm (top and bottom), with headers and footers at 1.5 cm. Text is justified and single-spaced.

Text figures

Illustrations for the text can be line drawings, maps or graphs in black ink on white paper. Black and white photographs can also be reproduced. There is no colour reproduction in the text. Hard copy or digital images can be accepted.

Cover pictures

The cover is the display area for colour pictures (paintings, photographic prints or digital images). Original artwork will be returned to the author after careful use.

Submission

Please send your contributions to the Editor in any of the following forms:

- 1) E-mail attachment. This is the preferred option but, if you have more than one image, please send the images on a CD.
- 2) CD.
- 3) Hard copy (computer print-out and original artwork).
- 4) If you have no access to a computer, a typewritten or handwritten manuscript will be acceptable.

**The LAST deadline for the next issue will be 31st July, 2010.
Earlier submission would be appreciated.**

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The Newsletter of the Botanical Society of Scotland

EDITORIAL

At the time of writing Scotland is still trying to emerge from the Big Freeze and snow showers are still happening. What a spectacular winter this has been! The snow and ice have been really thick and long icicles have been hanging from the roof edges. The trees have been bowed down by the weight of snow and some have not been able to stand the strain. Now I understand why weeping foliage is a good design for high altitudes. It will be interesting to see, in the months ahead, what effects this winter has on the spring and summer flora. I'm sure phenologists will be recording diligently. The BSS Conference on *Phenology: Plant Ecology and Diversity*, planned for April this year, is very timely. For this and other BSS events and developments being planned for the next 12 - 18 months see Society News (pp. 9 & 10). Your feedback would be appreciated.

Flowering plants depend on pollinators, such as the insects pictured on the outside and inside front cover. Insect pollinators are welcome; insect bloodsuckers are not. Fortunately, in spite of insect and other hazards, field studies flourish and yield articles, reports and abstracts for this Newsletter. In this issue there are also meeting reports, three helpful book reviews, lists of events and courses and, for diversion, a crossword and a poem. A warm thank you to all contributors.

You may have noticed that issues of BSS News vary in size according to the amount of copy submitted. I thought this was going to be a moderate-sized issue but, at the last minute, some mega contributions arrived and made it a bumper issue! Your enthusiasm is greatly appreciated.

In fact, I have much appreciated your enthusiasm and support for the last decade. It is 10 years since I became the Newsletter Editor and what a rich variety of material I have been privileged to edit! Now, in order that the Newsletter may continue to blossom in the future, I feel that a fresh eye on the scene would be beneficial. Therefore, I intend to retire from the post of Newsletter Editor at the AGM in June, 2010, so that a new Editor can be elected (see Request and Advertisement, p. 8). Could this be YOU? Think about it, and please get in touch if you are interested.

Barbara Sumner

ANNOUNCEMENTS

Co-options to Council

At the meeting of the BSS Council on 24th September, 2009, the following co-options were made:

Vice-President: Dr. Barbara Sumner

Councillors: Dr. Jill Thompson and Mr. Derek Christie.

Changes in Local Secretaries

The Local Secretaries in Dundee and Inverness, Professor John Raven and Mrs. Margaret Barron, respectively, have indicated their wish to retire after many years in their posts. Thanks to them both for all their work on behalf of the BSS. We are currently seeking replacements.

New Year Honours!

Congratulations to Professor Mary Gibby, Director of Science at the Royal Botanic Garden Edinburgh, who receives an OBE for 'Services to Botany'.

Success for the journal!

Our new scientific journal, *Plant Ecology & Diversity*, has been selected for inclusion in the Journal Citation Reports and the Science Citation Index already. This is a very fast acceptance and might lead to the award of an impact factor by 2011. Congratulations to the Editor (Dr. Laszlo Nagy), the Editorial Board and the Publishers (Taylor & Francis and the BSS).

New BSS website launched

In February the newly designed BSS website was launched (see Society News, p. 9). Many thanks to the design team for their time, thought and skill.

Newsletter for the BHL

The Biodiversity Heritage Library for Europe (BHL-Europe) is a project involving 26 major European natural history museum libraries and botanical garden libraries and two libraries from the United States. The project started in May, 2009, and will last for three years. It will involve an online access point for the search and retrieval of a wide variety of rare and common, old and new taxonomic publications as well as other

biodiversity publications. The first newsletter is launched and can be viewed at the following URL: www.bhl-europe.eu/files/BHL_newsletter_090731_lowres.pdf

Please visit also the project website: www.bhl-europe.eu

Deaths

BSS members will be sad to learn that Dr. Joe Lennard, a former Editor of the *Botanical Journal of Scotland*, passed away on 19th May, 2009. An appreciation is included in this issue (p. 11). Further sad news is that Liz Pilling, recently of the RBGE, died on 10th November, 2009.

REQUEST

Nominations for election at the BSS AGM, 2010

At the AGM in June, 2010, the following vacancies will occur on the BSS Council: President, Vice-President, Membership Secretary, Newsletter Editor and three Councillors. If you would like to propose a candidate for election (with their agreement) to any of these posts, please send your nomination to the Hon. General Secretary **by 30th April**. A form is enclosed in this mailing for your convenience.

ADVERTISEMENT

Newsletter Editor

This elected post will become vacant at the AGM in June, 2010. The post involves:

- Enjoyable communication with contributors to BSS News.
- Copy-editing.
- Artistic opportunities.
- Producing camera-ready copy (for two issues of BSS News per year).
- Liaising with printers.

The retiring Editor will be happy to give guidance as required. The tasks could be shared between two people, if desired. If you are interested and would like further details, please 'phone 01968-679550, or e-mail: b.sumner@btinternet.com

SOCIETY NEWS

There are many exciting BSS events, projects and new ventures planned over the next 12 - 18 months.

New Website

By the time you read this our new website will be up and running at: <http://www.botanical-society-scotland.org.uk> This will initially offer easier and clearer access to all the information that was on the old site but, as the year progresses, will include a special 'members only' section, pages where photographs can be uploaded to assist with identification/confirm records, profiles of council members and much more. The website manager is Kim Harding.

More local events

The Society is providing additional support to our Local Secretaries in Aberdeen, Glasgow, St Andrews, Dundee and Inverness so that more events, lectures and excursions can be hosted outside Edinburgh. We are also forging links with other organisations so that joint events can be hosted across the country.

Transactions

There are plans to reintroduce Transactions of the Botanical Society of Scotland as an online journal; more about this later in the year!

7th – 9th April is a busy time for the BSS

Three-day International Conference

The society is hosting *Phenology; plant ecology and diversity* in the Scottish Agricultural College, Edinburgh. At the time of writing speakers from Ireland, Japan, Norway, Australia, Switzerland, USA, Finland and, of course, Scotland have submitted papers. There is still time to register! (*contact details below*)

CSI Botanics

During the same three days student members (Catherine Kwella and Niamh Rae) are hosting a Science Festival event in the Royal Botanic Garden Edinburgh. This is a free event for ages 10-110. Follow the signs to the Forensics Tent!

"There's been a murder! Visit our mock-up crime scene at the John Hope Gateway Centre. Use your detective skills to solve the crime by

comparing the pollen of the crime scene to samples taken from the suspects. Have fun dressing up as a forensics expert and with clues from plants and the help of the forensics team, see if you can work out whodunnit”.

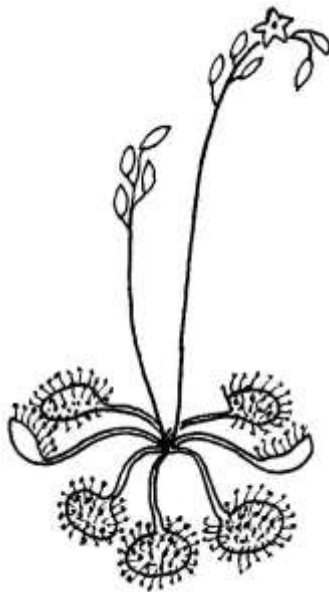
Outreach events

The Society intends to have promotional stalls at Gardening Scotland from 4th - 6th June and at TreeFest on 17th & 18th July, 2010.

The BSS lecture programme now appears in ‘The List’.

Remember! You are a vital part of the Botanical Society of Scotland. Please contact us if you would like to take part in or contribute to any of these events or proposed new ventures. Let us know if you have additional ideas for, or information about, botanical events in your area.

Contact: Hon. General Secretary, Botanical Society of Scotland,
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Tel.: 0131 650 7211
or see the BSS website for details.



DR. JOSEPH LENNARD, 1929 - 2009

Joe Lennard was a man for whom kindness was central to his outlook – in both his personal and professional life. That generosity of spirit informed his dealings with family, friends, work colleagues and students. His didactic approach was thorough yet thoughtful and as a result he always commanded the respect of his audience.

His career began on 1st April, 1956, when he became an assistant specialist adviser with the then Edinburgh and East of Scotland College of Agriculture, part of the Edinburgh School of Agriculture. The significance of the date was surely not lost on Joe and his gentle, self-deprecating humour never failed to raise a smile. He worked with Dr. Andrew Boyd and developed research interests on storage of diseases of potatoes before becoming Head of Agricultural Botany at the Edinburgh School of Agriculture in the early 1970's. It was a post which he retained until his retirement in 1989. By this time his research interests had expanded to include foliar pathogens of cereals, potatoes and brassica crops. Joe's dedication to academic excellence was amply demonstrated when he agreed to take on the task of editing the journal of the Botanical Society of Scotland, a responsibility he held from 1990 until 1997.

His strength of character and integrity were such that he could always be relied upon. Those who knew him appreciate that his fine qualities enriched their own lives and contributed towards a wealth of scholarship in his chosen field.

Dr. Bill Spoor
Group Manager, Crop and Soil Systems
Dean of Centre, SAC

Notes from Dr. Stephan, Helfer, RBGE

Joe Lennard was very softly spoken but still got what he wanted most of the time, a trait I greatly admired. He was the best Ph.D. supervisor I could have hoped for, and the best introduction to my new, British, life. I owe him much, probably not least that I felt at home here in Scotland.

Joe, as Journal Editor (1990 – 1997), saw the transition from *Transactions of the Botanical Society of Edinburgh* to *Botanical Journal of Scotland* and edited Volumes 45 to 49, dealing, among other things, with symposium proceedings such as 'Conservation of Plants and their Habitats in Scotland' (1990) and 'Plants and People' (1994). He was followed by Dr. Neville Dix, who took over the final part of Volume 49.

STUDENTS' THESIS PRIZE, 2009

Nine dissertations from six institutions were submitted for this annual prize competition. We are grateful to the assessors for selecting a winner, Emily Carroll, after careful study of all the entries. Congratulations to Emily, who was presented with her prize at the December lecture meeting! Abstracts of the entries, where available, follow below, starting with the winning author and continuing in alphabetical order of the other authors.

The impacts of Scottish winter climbing disturbance on cliff face vegetation

The impacts of recreational activities in montane environments and the disturbance of vulnerable plants in refugial cliff habitats by rock climbing have been widely investigated and have invoked many causes for conservation concern. However, despite the popularity and potentially aggressive nature of mixed winter climbing, its impacts are hitherto unstudied. This investigation aimed to describe these impacts and quantify their extent in Coire an t-Sneachda, a venue very popular for the sport in the Cairngorm Mountains of Scotland, hosting sensitive alpine/sub-arctic flora. Cliff vegetation was surveyed directly via roped access and habitat damage was estimated, whilst biodiversity was investigated using percent cover values for species of vascular plant, lichen and bryophyte, comparing quadrats between climbed and unclimbed areas of the cliff. The sampling scheme was designed to account for high heterogeneity between turf patch sizes, and potential variation between climbed areas and controls due to route choice by climbers. Winter climbing routes cover approximately 9% of the cliff face, and were associated with significant losses of cliff soil volume and vegetation cover (mean losses of 44 and 46% respectively, but with high between-route variation). Remaining community composition (bryophyte : vascular plant) was related to the level of habitat disturbance, whilst species richness was lower on climbed routes due to habitat loss. Winter climbing has the potential to cause serious levels of damage to sensitive cliff habitats, from which recovery potential is limited. Climbers need to be made aware of best practice to reduce impact on cliff vegetation, and management implemented urgently to prevent expansion of this damage.

Emily Carroll, University of Edinburgh

Isolation and identification of the first POPb-deficient mutant in barley (*Hordeum vulgare* L.)

Zebra, a recently identified light-sensitive mutant in barley (*Hordeum vulgare* L.), was the subject of this undergraduate thesis. *Zebra* develops transverse green and chlorophyll-deficient sections along the primary leaf under light/dark cycle, although the wild phenotype can be rescued in *zebra* if grown under continual or blue light. Transmission Electron Microscopy (TEM) revealed chloroplast numbers to be lower in chlorotic sections although those present were structured similar to wild-type chloroplasts. Spectrophotometric analysis suggests that, in *zebra* leaves, photochlorophyllide, a photosensitiser molecule, accumulates in the dark and causes photooxidative damage upon subsequent illumination. Immunoblotting revealed levels of NADPH : protochlorophyllide oxidoreductase b (PORb) to be deficient in *zebra* and it is proposed that the *zebra* mutation may act at either the assembly of the plastid protein import apparatus or at the level of PORb precursor synthesis. All data suggest that the *zebra* mutation acts at an early stage of leaf development and support the photoprotective role of a second isoform PORa. Data also support the essential role of PORb in chlorophyll synthesis, whilst demonstrating the redundancy of PORb in chloroplast development and constitute the first indirect evidence for lack of a third isoform, PORc, in barley.

Alex Anderson, University of St Andrews

The effect of different levels of drought stress on winter wheat (*Triticum aestivum* L.) and the performance of the rose-grain aphid (*Metopolophium dirhodum* Walker)

No abstract provided. Alice Baranyovits, University of Edinburgh

A comparison of the biodiversity of wasteland (post industrial) mill sites along the Water of Leith

This is an investigation into the vegetation biodiversity on post industrial mill sites along Edinburgh main river, the Water of Leith. It was thought that these post industrial mill sites may contain high levels of biodiversity, due to their previous history and being wasteland sites for

numerous years. Therefore vegetation surveys were carried out on five mill sites (and on five control sites), where the percentage cover of each plant species was recorded. This was carried out in both quadrat and transect format.

The raw data were compared against environmental characteristics of the site. These included: age, size, pH, distance to human habitation, distance to water etc. This would conclude which environmental characteristic was having the greatest effect on the biodiversity of the area.

In terms of species richness, control sites have more diversity; however the mill sites do display a greater number of species (which are only found on particular sites). Therefore the control sites appear to contain a greater overall number of species whereas the mill sites contain a greater variety of different species. It was found that the characteristics having the greatest effects were site size, site age and distance to water.

In conclusion, although the control sites contained the greater number of species, the mill sites contained a greater variety of species, including those only found on particular sites. Therefore the mill sites can be considered diverse. Thus it can be seen that urban wastelands can prove an important source of diversity.

Rachel Edmans, Scottish Agricultural College, Edinburgh

The water relations of foliose and fruticose epiphytic lichens in response to an ecologically appropriate relative humidity treatment

The water status of lichens is essential to permit metabolic processes (respiration and photosynthesis) to take place, to allow primary productivity and for reproduction to occur. This study measured the response of twelve epiphytic, foliose and fruticose Scottish lichen species to an ecologically relevant relative humidity and drying treatment at appropriate spring-summer temperatures. The data was affected by fluxes in temperature and so the species response was modelled under standardised relative humidity and temperature conditions. Surprising similarities were observed in the responses of these species despite their widely differing morphologies. The results demonstrated that chlorophyllous lichens were able to absorb greater amounts of water under the experimental misting conditions compared to cyanophyllous

lichens. Surface area measurements from this study showed no correlation with the rate of water uptake or loss from the thallus and it is suggested that internal structures may play a more important role in the determination of the water balance. The detailed information gained about the water relations of these sensitive organisms fills in some of the gaps of the data required for biophysical modelling and future predictions about the changes in species distribution due to human impact and climate change.

Emma Goodyer, RBGE and University of Edinburgh

Bryophyte diversity of structures in heritage gardens compared with the adjacent naturally occurring rocks

The purpose of the study was to evaluate stone structures in Scottish heritage gardens for the conservation of bryophytes.

The bryophyte flora of stone structures of four gardens was compared with those of adjacent natural rocky outcrops to determine whether there was a difference between them. To ensure a climatic gradient the localities ranged from east to west across Scotland.

Garden stone structures and natural rock sites were found to have a high percentage dissimilarity, and, further, the study indicates that species-richness of garden structures is greater than adjacent natural rock sites.

The study also revealed a trend for gardens to support a larger proportion of species favouring base-rich (basicolous) and calcium-rich (calcicolous) conditions, whereas adjacent rocky outcrops yielded a greater proportion of acidophiles and calcifuges.

The study concludes that both the inherent aesthetic and conservation value of bryophytes should be carefully considered when making decisions on bryophyte management in heritage gardens.

Johanna Lausen-Higgins,
University of Glasgow and Scottish Agricultural College

An analysis of the risks and benefits associated with the medicinal use of borage (*Borago officinalis*)

Borago officinalis (borage) is a medicinal herb with a long history of use. However, the whole plant has been shown to contain hepatotoxic

pyrrolizide alkaloids (PAs). In light of this, the level of risk needs to be determined and the medicinal use of the plant reviewed. The literature on PAs was found to be inconsistent, varying from 2-10ppm to 96ppm present in the dried plant. Further research is therefore needed for clarification. Importantly, the flowers and the seed oil have been shown to be free of hepatotoxic PAs. No further data were found for the concentration of PAs in medicinal preparations. Establishing these values would further refine understanding of the risks involved. No reports of toxicity associated with the use of borage were found but a common culinary use was identified in Italy, Germany and Spain. This presents an opportunity for epidemiological research. Clinical evidence for the medicinal use of borage is sparse in some areas and absent in others. However, comparison of the historical and modern herbal literature with the research evidence highlighted several promising new avenues of exploration. In particular, potential anti-bacterial properties and the use of plant juice rather than seed oil for skin conditions.

Claire Mullan, Edinburgh Napier University

An investigation into the possible inhibitory impacts of *Rhododendron ponticum* on ground vegetation in a woodland habitat.

The aim of this investigation was to identify the diversity of the seed bank from an area invaded by the non-native shrub *Rhododendron ponticum* (*R. ponticum*) and to explore how this seed bank may be suppressed by *R. ponticum*'s characteristics.

Soil samples from an area invaded by *R. ponticum* were allowed to germinate in greenhouse conditions to identify any potential seed bank. A second experiment examined the shading capability of *R. ponticum* using a wild flower seed mix which was allowed to germinate under different strengths of shading cloth, recreating light levels found under an *R. ponticum* plant. A quadrat survey was also carried out to identify species diversity in an open woodland habitat and areas dominated by *R. ponticum* and holly (*Ilex aquifolium*). Finally soils from areas of woodland with and without *R. ponticum* presence were tested for pH levels to identify potential differences between the areas.

The seed bank experiment showed that there was a viable seed bank present in areas dominated by *R. ponticum* although with limited

diversity. The light shading experiment demonstrated that in impoverished light conditions the amount of germination was unaffected although seedlings were etiolated. The quadrat survey suggested that plant species diversity was greater in an open woodland than in areas dominated by *R. ponticum* or *I. aquifolium*. Soil pH tests showed that areas where *R. ponticum* dominated had higher levels of soil acidity compared to areas without *R. ponticum*.

The results and analysis proved that *R. ponticum* does have an inhibitory impact on other vegetation although there were areas where further study is required.

Philip Neil Munro, Scottish Agricultural College

Investigating the presence of a temperature driven growth response in high-latitude and high-altitude *Pinus sylvestris* L. trees: a dendro-ecological study

In the context of recent temperature rise globally and specifically within the high latitudes, this study aims to characterise whether temperature has a driving effect on growth processes in the natural boreal forest of Värriö Strict Nature Reserve, Finland. A large collection of tree cores of *Pinus sylvestris* L. were sampled from both within the forest stand and at the limit of the Krummholz tree line, and among trees of ages ranging from 7 to over 300 years old. The resulting ring width chronologies were compared with temperature data for the region, and it can be seen that although temperature acts as a driver drastically increasing productivity in some areas of forest, some areas show no response, while others are showing a negative response presumable due to effects of water limitation. Above the tree line no correlation with temperature was found but growth rates are substantially higher, which is most likely due to decoupling of meristem tissues from the atmosphere by young trees. Age profiles above the tree line are much younger than those below, indicating either a bottleneck effect when reaching maturity or a recent upward shift in the altitudinal tree line. Overall, the forest response is characterised by heterogeneity and temperature cannot be said to drive growth responses except on a site to site level.

Jennifer Pannell, University of Edinburgh

IDENTIFICATION, INSPIRATION AND INSECT REPELLENT:

25 YEARS OF BOTANY FIELD COURSES

BSS Presidential Address, 21st January, 2010

Botany field courses have been an essential part of the teaching of Plant Science at University level certainly since I was an undergraduate in the late 60's, and probably for many decades previously. But, when I first became involved with the Field Course as a postdoc. in the Botany Department at Edinburgh in the early 1980s, there was already pressure on its budget, and the department was even then faced with having to reduce its costs by about 10 percent.

The late Philip Smith* was the architect of the model of the Botany Field Course that prevailed in the Botany Department from 1981 until his untimely death in January, 2004. Responding to the need to teach more students on a dwindling budget, he conceived the idea of using caravans as modular accommodation for the students and staff. This would allow flexibility in purchasing the exact amount of accommodation required when student numbers could not be forecast accurately in advance. In some ways, with more hotels catering for tourism on a budget, it has become easier to do that today, but not in the UK where hotel accommodation is still very expensive.

In many parts of Scotland village halls were available for hire very cheaply in the early summer. Philip realised that even if they were not at the same location as the caravans, these made ideal bases for the group, and makeshift laboratories could be set up in them. Many had heating, toilets and rudimentary kitchens, trestle tables and chairs, and adequate supplies of power.

The field courses had previously taken place in maritime Galloway, but the idea of a second, montane venue was raised, and in 1981 a reconnaissance visit was made to the Cairngorm area. For the next 20 years, the Botany Field Course would alternate between Aviemore in odd years (with the village hall at Boat of Garten) and Southernness in even years (with the village hall at Kirkbean). Students could attend in both second and third years and experience different plants and plant habitats.

Caravan parks thus became the landscape of our lives, and I now break out in a cold sweat every time I see one. In the early '80s they offered only basic shelter, and toilets and showers in some squalid communal block. We called Southernness caravan park, 'Colditz by the sea', but slowly the quality of the caravans improved and by the '90s they were usually fully self-contained miniature luxury homes with showers, central heating and colour television. The students, never slow to spot the intrinsic vulnerabilities of the staff, would strew rice crispies on the caravan roof so that we were woken at dawn by the machine-gun sound of flocks of gulls on the roof, pecking for the myriad tiny morsels. Students never change in that respect, and I guess it was only fair retribution for our treatment of Charles Gimingham at Bettyhill when I was a student. We removed the bedboard of his box bed, carefully replacing the mattress and remaking the bed so that it would collapse on him as he got into it. Much later in 2006, when I occupied the same room at Bettyhill I woke to terrifying scrabbling accompanied by the sounds of barely-stifled hysterics as the students manouvered a fibreglass canoe onto the staff landing in the pitch darkness. The wheel turns, but nothing much is new under the sun!

Caravan life was otherwise relaxed. An excellent cooked breakfast was provided by Bob Dixon, complete with toast and marmalade carefully selected to have thick peel and more oranges than sugar in the ingredients list. Thus fortified each morning we were tipped out at 9 a.m. sharp to assemble for briefing at the village hall. Bob had a certain weakness when it came to keys, whether of vehicles or caravans. On more than one occasion he succeeded in locking them in the boot of his car, and when he started to pat down his pockets on return to the caravan you could be pretty sure you were in for a few moments, at the very least, of anxiety.

On many of the field courses there were between 40 and 60 students, and they were transported by hired bus, supplemented by 17-seat minibuses. Philip usually had the largest group of students to ferry about, since his projects, 'Know the plants of Galloway / Cairngorm', were by far the most popular. The bus drivers often became attached to the course for several years in succession so that they knew the routine, and were often to be seen in full uniform, complete with cap and badge, ascending Cairngorm with the students. Philip used the bus as mobile shelter and lecture theatre as well as for transport, and often the bus driver would be roped in to collect wood for the student's barbecue parties.

The aims of the Botany Field Course at that time were to teach plant identification, field survey techniques and the methods of plant physiology as applied to plants in their natural habitats. Successive heads of department (in the days when we were called the Botany Department) insisted that the Field Course should not simply be an extended nature ramble, that the excursions should have the scientific character of a practical class taught in the field, and that four days of the six should be devoted to individual project work.

Consequently, we needed van loads of heavy equipment – pressure bombs to measure turgor pressures and their gas cylinders, gas analysers to measure rates of photosynthesis, ovens and muffle furnaces to dry soils and burn off their organic matter, soil probes and augers, pH meters and balances and all the other equipment of a plant physiology and soil science laboratory. In addition we would carry surveying equipment, levels and tripods and staffs, and of course quadrats, canes and string and measuring tapes for laying out transects, grappling hooks for dragging lake margins. And there was the inevitable huge pile of plant presses to be transported, and large piles of dry newspaper lovingly collected by the technicians over the previous year. At one time there was even a Botany Departmental rowing boat that was used on occasion (at least once) to get access to hydrosere and lake marginal plants. I remember driving that back from Aviemore on its trailer attached to the department's long-wheelbase Landrover, in the days (now long gone) when we still owned departmental vehicles. It lived in a cage in front of the potting shed.

Even the excursions would involve application of formal vegetation sampling techniques: transects to sample dune succession at Southernness and snow patches on Cairngorm, studies of allelopathic influences of pines on the ground flora. Working as a team we would produce large-scale maps of vegetation pattern, surveying, for example, the micro-successional sequences as wind-driven plants migrate across the landscape. The downside of this focus on project work was that students could end up working face down on transects in the same place in the horizontal rain for days on end, thereby missing most of the habitat diversity and botanical delights of an area they might not get the opportunity to see again for the rest of their lives. There is an inspirational delight in botanical exploration: in encountering new plants like *Cornus suecica* beneath the heather, with its touch-sensitive flowers that burst open at an insect's touch to throw pollen in its face, or in

searching for the elusive *Tofieldia pusilla* in Lurcher's gulley or the carnivorous *Utricularia minor* flowering in a pool on Silverflowe raised bog.

The Cairngorm course of 2003 was to be the last Field Course of the Smith model. By that time, most of the core staff had taken early retirement, or moved on and Philip and I were the only two members of the original boffins left, and the small course that year was run with two demonstrators. Sadly, it was to be Philip's last year, as he died of pneumonia in the following January. I was left with the Field Course to run alone. Philip had dominated Field Course teaching for so long that the future of the course seemed impossibly bleak. Just in the nick of time, Richard Milne appeared in 2004, keen to be involved in undergraduate teaching, and one of the most experienced botanists of his generation, and a new collaboration began. Before his death, I had promised Philip that I would organise a new Field Course in the Burren, and the Burren FC in 2005 was the first for almost 25 years to break the Southernness/Cairngorm cycle.

The course that year was small (12 students) but successful and enjoyed by all, and we were to run it again with 18 students in 2008*. The budget was cut once again, this time so low that we couldn't contemplate hiring a bus. This time the model would have to change, so we used minibuses for transport from the UK, and the accommodation was the University of Galway's Outdoor Education Centre at Carran, right in the heart of the Burren's limestone pavement area, made available to us for a totally uneconomic price. We could spill out of the OEC to sample limestone pavement and turlough vegetation, with its *Geranium sanguineum*, *Gentiana verna*, *Potentilla fruticosa*, *Ophioglossum vulgatum*, *Littorella uniflora* and marsh orchids within a few minute's walk, and there was a laboratory/classroom and self-catering facilities on site. Most crucially, Cassidy's pub was only walking distance away. It was perfect. A boat trip on the Happy Hooker to Inis Oirr in the Aran Isles resulted in the thrill of seeing Bee Orchids* and the diverse flower-rich drystone walled fields, full of *Geranium sanguineum*, *Anthyllis vulneraria* and *Leucanthemum vulgare*. Of course, try as one might to enthuse students and maintain their focus on plants, external influences inevitably disturb the educational reverie. Father Ted's house was the highlight of the experience for many, and group language and behaviour were correspondingly degraded as a result.

My dream of warm-climate field courses among exotic flora finally came true in 2007 with a trip to Italy which was memorable in every

possible way. Richard met Salvatore Cozzolino at the International Botanical Congress in Vienna, where Sal proposed a joint British-Italian Field Course. We were invited to Naples to discuss plans, and in mid May, 2007, 16 lucky students flew to Naples to join an equal number of students from the two Universities of Naples (Naples and Caserta). We were hosted by Salvatore from Naples and by Sandro Strumia and his partner, Annalisa Santangelo, from Caserta, who introduced the students to vegetation succession on the variously-aged lavas of Vesuvius and then provided a masterclass in vegetation survey techniques in the meadows of Sella del Corticato, near Teggiano in Cilento**. This is a floristically-rich upland limestone area with abundant orchid species and hybrids, where our students worked closely with their Italian counterparts. Later in the week the group moved to maritime maquis vegetation (macchia) in the south-east of Cilento at Camerota. A particularly memorable guided botanical walk through the maquis ended at a secluded beach with the local endemic, *Primula palinuri*, on the rocks, where the group lunched and swam while waiting for small boats to ferry us back to Camerota. As the boats departed a thunderstorm broke, and the boats had to shelter for a while in limestone caves. Nevertheless we were soaked to the skin and were forced to strip off our saturated clothes on the quay before boarding the bus.

A highlight of the trip was a visit to the Naples Botanic Garden, Orto Botanico, where live collections of warm temperate and subtropical plants can grow unprotected in the open. We were treated to guided tours of the garden with its Strelitzias, tree ferns and germplasm collection of *Citrus* species and varieties, the Museo di Paleobotanica ed Etnobotanica and the library with its superb collection of hand-painted botanical etchings.

We were reluctant to leave Italy, but fortunately the Italian air traffic controllers' strike on 22nd May, 2007, came to our rescue, and the group was forced to spend three extra days in Sorrento, drinking piña coladas round the pool. Disaster.

It was a great loss to humanity that on the point of disembarking from the Beagle at Santa Cruz in January, 1832, Darwin turned away from Tenerife because a cholera epidemic in Britain would have required him to be quarantined for 12 days. It would have been amazing to read his thoughts on the island's natural history. When I visited Tenerife with my family in 2008 it was obvious to me that it was a perfect location for a field course. The island endemism of the Canaries is legendary. We

could explore plant habitats ranging from coastal scrub to humid subtropical evergreen cloudforest, sub-alpine communities and deep ravines. We could witness the impact on the vegetation of permanent differences in hydrological inputs between the rain and cloud-watered northern slopes and the rain-shadow to the south and the periodic large-scale natural disturbances of the lava outpourings from the volcanoes.

This would have to be a different style of field course. With only a 20 kg luggage limit allowed by Globespan, we would have to travel light, unencumbered by the heavy equipment that we had been used to carrying to Cairngorm and Southernness. Just notebooks and pens, hand lenses and open, enquiring minds. The course began with a stroll through the streets of suburban Puerto de la Cruz, introducing the diversity of introduced species in sub-tropical gardens – *Bougainvillea* and *Strelitzias* in the tropical gardens of the hotel growing cheek-by-jowl with planted endemic Canary Palm (*Phoenix canariensis*) and Dragon Trees (*Draco canariensis*). Canary Sea Daffodils (*Pancratium canariensis*) flowered in the borders, and the streets were lined with *Jacaranda*, Flamboyant (*Delonix regia*) and African Tulip Tree (*Spathodea campanulata*). In the town walls, often constructed of foamy lava bombs (scoria), Maidenhair Fern is frequent and, approaching the coast along Camino de la Costa, increasingly endemic plants such as *Euphorbia canariensis* and *E. brousonettii* and the statuesque *Echium simplex* occur among the introduced Agaves, Yuccas and Opuntias. On the coastal rocks, endemic *Astydamia latifolia* shares territory with *Crithmum maritimum*, here at the most southerly point in its range, and in April, the cliffs are purple with *Pericallis tussilaginis*. The narrow mountain ridge of the Anaga peninsula intercepts the almost constant northerly winds, forcing them up to form cloud on their northern aspect which dissipates rapidly beyond the ridge to leave the southern slopes dry. The stark contrast between northern moisture and cloud forest and southern semi desert is seen again and again along the whole length of the island. At intermediate altitudes, evergreen broad-leaved forest, known as monte verde or laurisilva, is dominated by laurels such *Laurus azorica*, *Ocotea foetens*, *Persea indica*, *Appolonias barbujana*, the rose we call Portuguese Laurel (*Prunus lusitanica*), with *Myrica faya*, *Viburnum tinus* ssp. *rigidum* and the Mediterranean Tree Heath (*Erica arborea* (Brezo)) and an endemic tree heath (*Erica scoparia* (Tejo)). The forest floor offers *Geranium canariensis*, *Pericallis cruenta*, the spectacular Canary Island Foxglove (*Isoplexis canariensis*), the Canary Bellflower (*Canarina canariensis*)** and several endemic Crassulas of the genera

Aeonium, *Aichryson*, *Greenovia* and *Monanthes****. In the volcanic caldera of Teide, at 2000 m altitude one could look down on the top of the cloud sea lapping the Canary pines 500 m below. Here the flora is almost all endemic, and features the spectacular red *Echium wildpretii***, a pure white broom (*Spartocytisus supranubius*), a shrubby yellow crucifer (*Descurainia bourgaeana*) and a shrubby pink scabious (*Pterocephalus lasiospermus*).

This year we plan to take 21 students to Estonia. There the forest floor is rich in shrub and herb species that read like a British plant-spotter's wish list: *Paris quadrifolia*, *Maianthemum bifolium*, *Orthilia secunda*, *Pyrola intermedia*, *Trientalis europaea*, *Moneses uniflora*, *Ledum palustre*, *Vaccinium uliginosum*, *Goodyera repens*. On the western island of Saaremaa there are some wonderful herb-rich plant communities, featuring the iridescently-coloured Field Cow-wheat (*Melampyrum arvense*) and abundant orchids including *Cypripedium calceolus*. On poor soils the sub-boreal forest floor is thickly carpeted with lichens and there are spectacular raised bogs with Cranberry, *Ledum palustre*, the bizarre Rannoch Rush (*Scheuchzeria palustris*) and the tiny and elusive Bog Orchid (*Hammarbya paludosa*). There is evidence of wild boar activity everywhere, scrapes in the moss where they have searched for roots and tubers and clear boar footprints in the softer soil. The place is simply magical, and I think what is special about Estonia is that many habitats appear to be relatively pristine.

I find I need the variety and intensity of these experiences to keep the juices flowing, and I think the students do too. Even for seasoned botanists, the experience of being in these environments powerfully reaffirms the reasons why we love and study plants. Their sheer diversity, and their inexorable enthusiasm for radiating into the most unlikely habitats is compelling, and no laboratory study can convey or replace this experience. It is rich, complex, and like they say about Vietnam - you have to be there to understand it, and the next generation of young botanists must be offered this opportunity. There has been a noticeable building of excitement about the field courses of the last five years, that has resulted in increasing student participation and interest. The students report that the Field Course is among the highlights of their degree program, and in many cases it helps them to decide to take Honours in Plant Science.

Yet the opportunity to teach this kind of plant science is under constant threat from all sides. The value of the field botanical experience

was doubted by our lab.-based superiors, whose demands for a scientifically-rigorous approach merely brought the laboratory out into the field, diminishing the opportunity to learn about the plant species themselves and observe their diversity. If we were to adopt their model today we would, no doubt, have to take the whole paraphernalia of the molecular biology laboratory with us to Tenerife. But that would, in my humble opinion, be to put the cart before the horse. The technologies of plant physiology and molecular biology are powerful ways to answer questions about plants, and that is not to be denied, but young botanists need first to be able to see the plants for themselves, and formulate their own questions. If they cannot have the time to witness and contemplate biodiversity without being burdened by technological baggage then they won't be capable of raising those questions.

Botany is increasingly a laboratory-based subject, technology based, focused on a few model species, notably *Arabidopsis*, or *Antirrhinum*, or even on *Ostreococcus*, an alga and the smallest known eukaryote. The burgeoning new information on Plant Molecular Genetics, Genomics and Proteomics and the new Systems Biology, has so compressed the curriculum that traditional Botanical topics such as Plant Anatomy and Plant Taxonomy have had to be abandoned. Indeed, molecular technology is seen as unifying all organismal biology to the extent that the justification for teaching Botany as a distinct subject is increasingly being questioned. These changes are exacerbated by 30% reduction in teaching time resulting from the semesterization of our courses, and further compounded by the timetabling of teaching in the winter months when angiosperms are largely dormant, so that opportunities to include field excursions and the whole plant experience within the normal teaching timetable have been lost. Consequently it is vital that opportunities for field botanical experience are not further eroded. Philip Smith would have understood this. He was an inspirational teacher who believed passionately in conveying to students the excitement of plants as living, interactive organisms, not just as laboratory containers for biochemistry.

What can the BSS do to increase the exposure of students to field botany? Now, more than ever, the time is right for the Society to redouble its efforts to involve undergraduate students and other young people in its activities. There is considerable opportunity for the Society to become involved with the University curriculum or to provide extracurricular activities that extend or augment the University curriculum. The October Fungal forays run by Maria and David

Chamberlain in collaboration with University staff have always been popular with students, who mingle with Bot. Soc. members and receive expert and inspiring tuition from Neville Kilkenny. These forays could be extended to other plant groups, such as ferns, lichens, bryophytes or orchids. There is growing demand from students for plant identification workshops, and with a little thought about timetabling with respect to the examination programme of the University, such workshops could be set up in the examination period, giving students some relief from revision as well as useful preparation for the coming Field Course. Most importantly, student feedback suggests that they are reacting negatively to excessive molecular bias and lack of balance in their courses, and the major question for the Society is why then, do so few join the BSS? I suggest that the Society's understanding of and response to the answer to that question is probably pivotal to its long term survival.

Chris Jeffree, President of the BSS, Edinburgh

*, pictured on the inside back cover; **, pictured on the outside back cover.



GALLOWAY BRAMBLES

Background

“Galloway: an area of southwest Scotland, now forming part of Dumfries and Galloway. Until 1974 Galloway comprised the former counties of Wigtownshire (VC 74) and Kirkcudbrightshire (VC 73), stretching northwards from the Solway Firth into the Galloway Hills and including the hammerhead-shaped Rhinns of Galloway. Its much forested uplands are a source of hydro-electric power and its lowlands are noted for farming, in particular dairy produce and cattle” (Munro & Gatting, 2006).

The best bramble ground is confined to the coastal strip (alt. <150 m.), the river valleys and the low interfleuves. The main river valleys comprise the Urr Water (Dalbeattie district), the River Dee (hinterland of Kirkcudbright) and the long valley that includes Loch Ken. South of Newton Stewart lies The Machars, an area of lowish moorland now much improved for agriculture, containing the towns of Whithorn and Wigtown. At the western edge lies The Rhinns, a 12-mile long spine of solid rock facing the Ulster coast. The most favourable bramble ground comprises laneside and burnside banks, while abandoned railway lines have proved fertile ground for colonisation by a few microspecies alien to the area, in addition to the natives. The opportunity has been taken of including a few unusual records from Dumfriesshire, especially from Nithsdale and adjacent areas (VC 72).

Most bramble thickets exhibit the classic ‘Irish Sea florula’ as described in the *Bramble Atlas* (Newton & Randall, 2004, p. xxi) and continue to display *Rubus errabundus* (series *Sylvatici*), *R. nemoralis* and *R. polyanthemus* (series *Rhamnifolii*), *R. dasyphyllus* (series *Hystrix*) and *R. latifolius* (series *Corylifolii*). In addition, in central Galloway in particular, there is an un-named bramble of the series *Hystrix*, which AN at first thought to be close to *R. infestior* of SE England but is now convinced is a distinct taxon that is frequent between Dumfries and Newton Stewart, with odd bushes occurring further west (=“*R. cf. infestior*”). The brambles named in this paragraph occur in the following hectads of the National Grid: NX 44, 45, 55, 65, 66, 67; they are also included in the Species List.

Recording

In common with most other Scottish vice-counties, there was little early meaningful exploration of their bramble flora apart from a brief list

compiled by the well-known local botanist, James McAndrew (1882). It was left to that great British enthusiast, W. Moyle Rogers, to carry out some collecting on his tour of western Scotland at the end of the 19th century, but again this was limited, being confined to a few from the Stranraer area (Rogers, 1897). These records were utilised in the *Scottish Rubi* lists compiled by Trail (1902-03) but it was over 60 years before any further explorations were made, this time by Eric Edees, who followed in Rogers' footsteps in 1975, having previously been to Dumfries- and Kirkcudbright-shires in 1964 in his quest to get to know Scottish *Rubi*. Alan Newton (AN) had also been to Dumfries (VC 72) in 1972 and VCC 73-74 in 1992. The records acquired on these journeys were incorporated into (a) Milne-Redhead's composite list for Dumfries & Galloway (1972) and (b) the Edees & Newton monograph (1988), and in turn the latter publication enabled the two local VCRs to enlarge on Milne Redhead's list when compiling their own local lists: for VC 73, by Olga Stewart (1990) and for VC 74, by Alan Silverside (1990); each mentioned some 30 species, not all vouched for; and included a few species collected by the VCRs themselves and also by Alan Stirling, who had visited the areas from time to time.

After increasingly taking an interest in brambles in Scotland, George Ballantyne (GHB) made a brief visit to the south-west in 1982, followed by week-long stays on the Kirkcudbright-Wigtown border in 1994 at Creetown and in Kirkcudbright burgh in 2006, along with three days in The Rhinns in 1994, during which much of the Galloway terrain was explored and its bramble diversity realised, and several species of note found. AN spent a follow-up visit in Galloway during August, 2009.

The results of all these, and some earlier, explorations are included in the following notes.

List of Species observed in Galloway

(Arrangement and nomenclature per the *Bramble Atlas*, 2004)

Section

Suberecti *R. fissus*: Laurieston Forest, 1995 (O.M.Stewart & R.J.Pankhurst), det. GHB, NX 66.

R. nessensis: several older records, last in 1972/73.

R. plicatus: several older records, last in 1972.

R. scissus: Mabie Forest, remnant of heathy area, now a forestry plantation, 2004, NX 97; Palnure, 1994, NX 46, and several previous records.

Series

- Sylvatici *R. cumbrensis*: a single bush was found by AN at Drumranlig above the River Nith, in 1992, along with *R. robiae*, both NCRs for VC 72.
- R. errabundus*: a member of the 'Irish Sea florula', substantially re-presented throughout both Dumfries and Galloway together with central Scotland and Lancs.
- R. leptothyrsos*: a species predominantly of the central belt of Scotland, with outliers here and there but scarcely occurring in Galloway, with a single old record from the Wigtown area (NX 45).
- R. lindleianus*: widespread, scattered, rather local in VC 74, in The North Rhinns, NX 06, while in VC 73, mostly in the Solway Firth area, in NX85; and at Southwick, 1982, O.M. Stewart, 2004, NX 95.
- R. pyramidalis*: rare, in wooded area in the centre of Gatehouse of Fleet, 1996, NX 65; also a few, scattered, previous records, including VC 72.
- R. robiae*: see *R. cumbrensis*
- R. waddellii*: a species recently described from the Isle of Man and Ulster (Allen, 1988), thus qualifying it as a new member of the 'Irish Sea florula'; Allen mentions that "its reported presence in Scotland in Kirkcudbright, v.c. 73 ... was based on a specimen collected c. 1975 which is unfortunately no longer extant (O.M. Stewart, in litt. 1995), the necessary verification of that record accordingly remains outstanding." As a result, Allen requested GHB to look for the bramble in the Cairn Water area, north of Dunscore, NX 88 (actually in VC 72), and it was duly re-found in 2001 and again in 2004, when it was also spotted at Townhead of Greenlaw and SE of Bridge of Urr, both NX 76, Dildawn, NX 75 and Barwhillanty area, east of Parton, NX 77, all in VC 73.

Series

- Rhamnifolii *R. cardiophyllus*: occasional on The Rhinns and in The Machars where it likes abandoned railway ground, especially in the vicinity of Wigtown, NX 45.
- R. septentrionalis*: a frequent species in central, and especially north, Scotland but extending to southern counties

only in small quantity; not seen recently, there are previous records from The Machars and NX 46.

R. dumnoniensis: mostly coastal in West Galloway; occasionally with pale pink flowers (as elsewhere). Ardwell, NX 14. The record for the Borgue area, NX 64, is erroneous, being a form of *R. polyanthemus*.

R. lindebergii: occasional, scattered on inland moorland fringes, e.g. Rusko Hill area, NX 75, and frequent by B 727 north from Tongland (east side of R. Dee, NX 75).

R. nemoralis: widespread and quite common throughout.

R. polyanthemus: widespread, sometimes abundant, especially near the coast by lanes and minor roads, e.g. in the Borgue-Brighthouse Bay area, NX 64, and westward.

R. rhombifolius: more or less confined to the Solway Firth area in VC 73, not in VC 74; also present in VC 72.

Series

Discolores *R. ulmifolius*: at sea level only, quite common in sheltered spots facing south.

R. armeniacus (*R. procerus*): as yet, there is only one record of the robust escape called 'Himalaya Giant' (reported at Newbridge, west Dumfries, NX 97, 1994, O.M. Stewart, perhaps in error for the next species?); it should be looked for in waste ground and by railways, especially in built-up areas.

Series

Vestiti *R. bartonii*: a large colony was found at the Lochside Industrial Estate on the north-western outskirts (Newbridge area) of Dumfries in 2004, provenance unknown (NX 97, in VC 73).

R. vestitus: although one of the commonest brambles in England, infrequent in Scotland with, in VC 73, sole sites near Boreland of Borgue Farm, by A 755; first found here by Olga Stewart about 1994 it was rediscovered in 2004 (two separate colonies, not entirely typical), NX 65; reported from Innerwell, VC 74, while also present in VC 72

Series

Sprengelii *R. sprengelii*: an associate of the *Betula pubescens/Quercus petraea* woodland community formerly widespread in the area as in the Pennines; good stands at Gatehouse of Fleet (NX 65), north of Glenluce (NX 25), at Parton (NX 76) and by the banks of the R. Dee (NX 66).

Series

Mucronati *R. mucronulatus*: this important component of the 'North Sea florula', especially in NE Scotland, is comparatively scarce at the other end of the country in the SW with a mere handful of records from each of VCCC 73/74. The latest sightings appear to be VC 73: roadside between New Abbey-Beeswing, 2004, NX 96; VC 74: North Rhinns, 2004, NX 06.
R. wirralensis: a major ingredient of the 'Irish Sea florula', occasional to frequent, as at Gatehouse of Fleet (NX 65), around Kirkcudright (NX 65), Creetown (NX 45) the Dee valley (NX 76), and on the south coast generally, especially Dundrennan (NX 74); and The Rhinns (NX 05/06).

Series

Micantes *R. raduloides*: occasional, close to the coast in West Galloway, several large clumps in the 1970s, plus at Richorn, Dalbeattie, 1982, O.M. Stewart (NX 85).

Series

Anisacanthi *R. anisacanthos*: rare, a few sightings, only in The Machars (NX 44).
R. dunensis: well established and locally common NE of Glenluce (NX 25), and on The Rhinns (NX 05/06), two interesting outliers of this predominantly Ulster bramble.
R. drejeri: rare, small colonies here and there e.g. in the Rhonehouse and Townhead of Greenlaw area (NX 76) and north of Kirkpatrick Durham (NX 77). Still also above Colvend in 2004, beyond White Loch, where O. Stewart saw it about 1994.
R. infestus: rare, most often on moorland fringes. NE of Glenluce (NX 25), Routin Bridge (NX 65) and Dundrennan area (NX 74)
R. hartmanii: AN so determined material collected by GHB at Old House Point, Cairnryan, in 1996; this seemed close enough to other material he had seen from Caithness, Tunbridge Wells and the *locus classicus*, Ostergotland, Sweden, to be included in the 2004 *Atlas* although there were one or two small aberrations. On investigating the site in 2009, it was found that the area was being severely mauled by earth movers and the plant could not be relocated in spite

of a thorough search. It must now be regarded as being probably extinct in this locality (NX 06, VC 73), having perhaps been brought in when a new military line was constructed between Stranraer junction and Old House Point during WW2.

Series

Radulae *R. adenanthoides*: common in the Lake District, Durham and the

northern half of Ireland, this bramble is scattered in Galloway; the main site is in Mabie Forest, NX 97, plus Balmacillellan Den, NX 68, and Barshalloch Point, NX 34.

R. echinatoides: considered to be a member of the 'North Sea florula', being particularly prominent in Yorkshire, it is met with from time to time, notably in Nithsdale and the adjacent Cairn and Cargen Waters valleys, NX 88 (VC 72) together with the Cluden Water, NX 87 (VC 73).

R. radula: although an important and very common constituent of the 'North Sea florula', this bramble has hardly been seen in Galloway; a few previous sightings require confirmation, so that the most recent, by a minor roadside west of Dundrennan, NX 74, 2004, is the only definite one (VC 73).

R. scoticus: NX 67 and NX 85 were included in the Stewart list for VC 73 (1990) on the strength of reports by Allan Stirling; however, AN is doubtful of both after not coming across this taxon at all in 2009; rather, he found *R. 'cf. Infestior'* in the reported sites and considers that Stirling may have confused the two brambles. *R. scoticus* should therefore be deleted from the Kirkcudbright list.

Series

Hystrix *R. atrebatum*: an unexpected find in 2004 was of this mainly SE England plant - a solitary clump in an old quarry south of New Galloway, NX 67; it was still flourishing in 2009, sharing the site with *R. 'cf infestior'*.

R. dasyphyllus: probably the commonest bramble, in a variety of habitats, but liking woodland in particular (almost all squares).

R. 'cf infestior': as mentioned in the preamble, a bramble frequent in central and west Galloway was provisionally named as this taxon by AN following its wide collection in

1994/2004 by GHB. However, after more material was gathered by AN during 2009 that name has been ruled out. Because it is so widespread, it seems certain to have been found previously, but the opportunity to examine likely herbaria, notably that of Edees, has not yet arisen. It may also have been seen by Allan Stirling and mistaken by him for *R. scoticus* (q.v.). It probably also is to be found in Dumfries, VC 72 and as it also occurs in Ireland, it has a wide enough distribution to merit being named.

R. hylocharis: Frequent in central Galloway, it favours woodland such as occurs around Cally Palace in Gatehouse of Fleet, NX 65, and wooded river banks near Creetown, NX 45.

R. phaeocarpus: Large thickets of this aggressive Southern bramble occupy the abandoned trackbed and linesides of the former 'Port Line' in a dark deep cutting on the west side of Hills Wood, NX 97, an excellent example of the invasive power of emigrating brambles, provenance unknown; it could not have come from Ireland, with which the only link might be the number of Irish travellers to and from the ferry at Stranraer who might have glimpsed it when going to or from Carlisle and all points south, e.g. on 'The Northern Irishman', the Belfast-London express.

Series

Corylifolii *R. hebridensis*: at its best on The Rhinns, often near the coast, e.g. along both sides of Loch Ryan, NX 06; it is a hazard on the golf course at Portpatrick, NX 05, and also features across

the North Channel at the base of the Giant's Causeway.

R. latifolius: possibly the quintessential bramble in Scotland, especially in the central belt and on the east coast; in the SW widely scattered but mainly near the coast; variable and often confounded with *R. caesius* (q.v.); and see the next species.

R. pruinusus: this species has long been misunderstood and so it was at the time Eric Edees did his Scottish tour in the 1960s, when he mistook forms of the variable *R. latifolius* and named them as *R. sublustris* (a synonym of *R. pruinusus*); thus a record appeared in Stewart (1990) from NX 64, following its listing from VC 73 in Edees & Newton (1988), but

not in *The Bramble Atlas* (2004). This is the Borgue district, which was well examined in July 2004, when several clumps of reasonably typical *R. latifolius* were found as well as some aberrant forms, the possible source of the earlier error.

R. tuberculatus: there is one record, from NX 55 in 1986; the only later sighting is from the Lochside Industrial Estate in west Dumfries, 2004, NX 97.

Section

Caesii

R. caesius (Dewberry): early records of this elusive bramble in Scotland date from 1843 in VC 73; although distinctive, it is easily confounded with prostrate forms of *R. latifolius*, an example of which occurred on the shore just west of Kirkcudbright at MillHall/Gull Craig picnic site in 2004, NX 64. Earlier, Edees confirmed plants from Port Ling, NX 85 coll. by Olga Stewart as this species, "creeping over rocks at bottom of heughs" (E); they had first been found there in the 1860s. Silverside (1990) comments "reliably recorded only from Stairhaven" (p. 12).

Thus, a good assortment of *Rubus fruticosus* microspecies is well entrenched along the lower ground in Galloway and will continue to provide, hopefully, a useful bridge with Northern Ireland for *Rubus* expansion.

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A. Newton, national *Rubus* referee, Exmouth
and G.H. Ballantyne, Scottish *Rubus* referee, Kirkcaldy.

STREET PLANTS

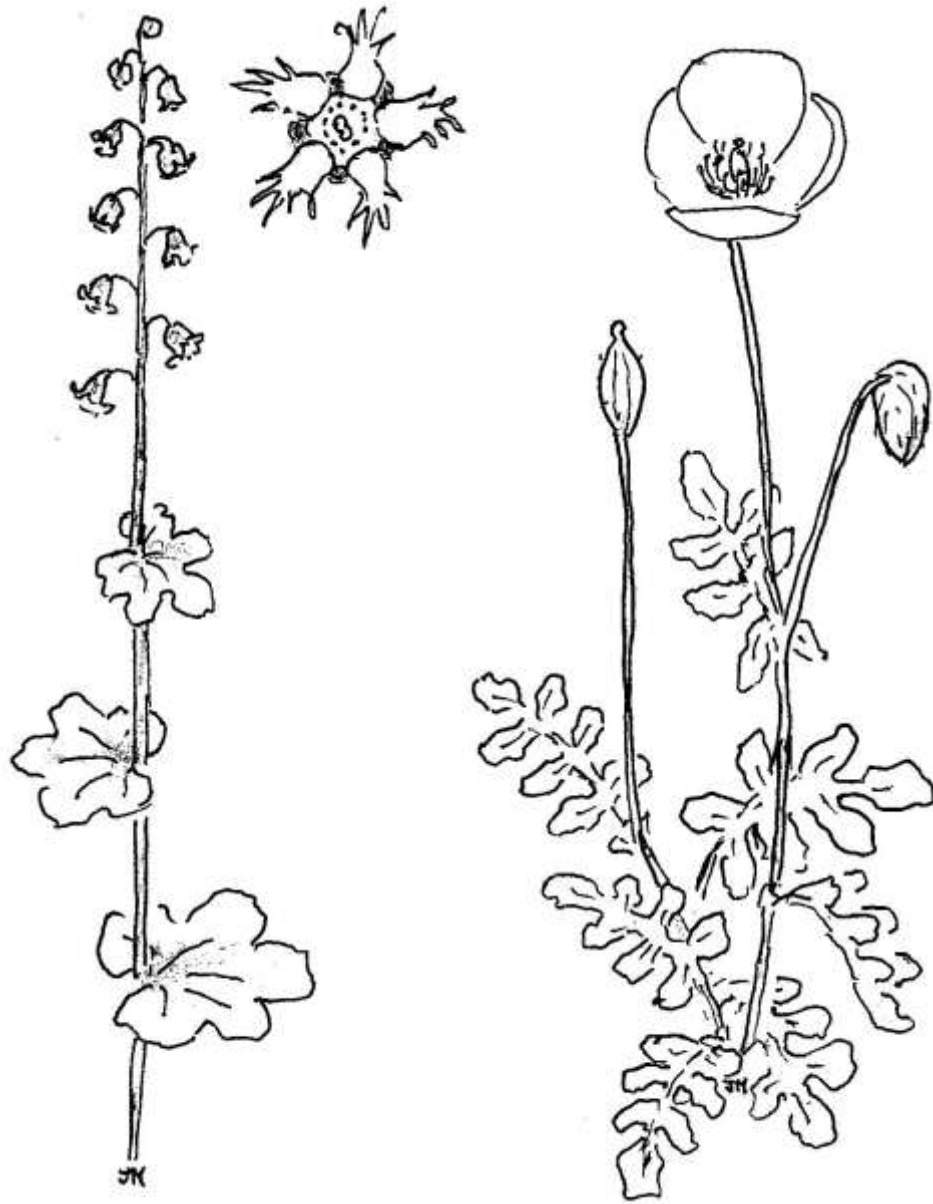
There are some tough plants which manage to survive in city streets, and from time to time I make a small inventory of the street plants and garden weeds in the Marchmont area of south Edinburgh. It's an area of Victorian flats with low walls round their small front gardens or basements. The walls were once surmounted by iron railings, now mostly gone, and often replaced by hedges, and some of the roads are paved with setts. So there are plenty of niches – on walls, where the walls join the sidewalk, by the kerbs and in between the setts. And of course there are neglected gardens and little plots of earth round recently-planted trees.

As might be expected there are a lot of annual weeds: crucifers like Thale Cress (*Arabidopsis thaliana*), Hairy Bittercress (*Cardamine hirsuta*) and Shepherd's Purse (*Capsella bursa-pastoris*), plus Chickweed (*Stellaria media*), Mossy Pearlwort (*Sagina procumbens*) and a surprising amount of Wall Speedwell (*Veronica arvensis*). Pineappleweed (*Matricaria discoidea*), Greater Plantain (*Plantago major*) and Annual Meadowgrass (*Poa annua*) seem to prefer the less-used setts, while the Prickly and Smooth Sow Thistles (*Sonchus asper* and *S. oleraceus*) prefer the sidewalk beside the walls, as does Groundsel (*Senecio vulgaris*). The latter is frequently host to the rust, *Puccinia lagenophorae* (a present from New Zealand).

Some perennials are also quite widespread: Daisy (*Bellis perennis*), Dandelion (*Taraxacum sp.*) and Broad-leaved Willowherb (*Epilobium montanum*, surprisingly common for a woodland plant). Wall Lettuce (*Mycelis muralis*) has recently put in an appearance (it seems to be on the increase in south Edinburgh), as has Fringe Cups (*Tellima grandiflora*, illustrated on next page, left). I planted a single specimen of *Tellima* in the back green some time ago, a long way from the road, and it's clearly self-fertile as it's now surrounded by babies. A single plant of Eastern Rocket (*Sisymbrium orientale*) appeared in 2008 and one of Balm (*Melissa officinalis*) in 2009.

Wall plants include Ivy-leaved Toadflax (*Cymbalaria muralis*), a little Wall Rue (*Asplenium ruta-muraria*) and Maidenhair Spleenwort (*Asplenium trichomanes*), several patches of Yellow Corydalis (*Pseudofumaria lutea*) and a large colony of Pellitory-of-the-wall (*Parietaria judaica*, over 150 plants mainly along Warrender Park Road), while the Adria and Trailing Bellflowers (*Campanula portenschlagiana*

and *C. Poscharskyana*) seem to prefer the outside of the garden wall to the inside.

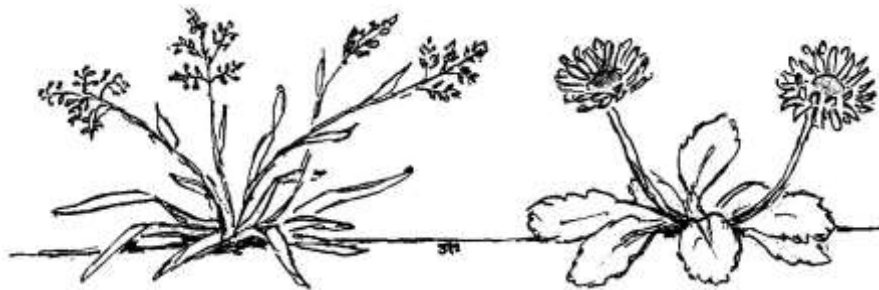


Probably the commonest garden escape is the Welsh Poppy (*Meconopsis cambrica*, illustrated above, right) along with Purple Toadflax (*Linaria purpurea*), while Opium Poppy (*Papaver somniferum*), Foxglove (*Digitalis purpurea*) and Snapdragon (*Antirrhinum majus*) appear from time to time. Mind-your-own-business (*Soleirolia soleirolii*) has been around for some years. I first noted it in a damp entry; now it is present at several sites and has taken over half a lawn in one shady front garden. Will it survive the current cold spell I wonder?

It is interesting to see how quickly trees would take over if human intervention were removed. Sycamore (*Acer pseudoplatanus*), Norway

Maple (*Acer platanoides*), Ash (*Fraxinus excelsior*), Wych Elm (*Ulmus glabra*), Butterfly Bush (*Buddleja davidii*) and Birch (*Betula* sp.) have all managed to insinuate themselves into hedges and neglected corners. And so have ferns like Lady Fern (*Athyrium filix-femina*), Male Fern (*Dryopteris filix-mas*) and Broad Buckler Fern (*Dryopteris dilatata*).

Altogether I've recorded around 100 plants over the last 2 or 3 years, and I'm sure the number can be increased by looking further afield. I noted a plant of Eastern Rocket near the Western General Hospital in 2009 and a new site for Shaggy Soldier (*Galinsoga quadriradiata*) in Corstorphine (the old colony in St Leonards still soldiers on). Shaggy Soldier is distinguished from Gallant Soldier (*G. Parviflora*) by the shaggy hairs on its stem. The name is interesting: Gallant Soldier is obviously a corruption of the Latin, but Gallant Soldier also used to be known as Joey Hooker – probably not the famous botanist, but the Unionist general of the same name who fought in the American Civil War. There is also a suggestion that the young ladies who frequented the Union camp were known as Hooker's girls . . .

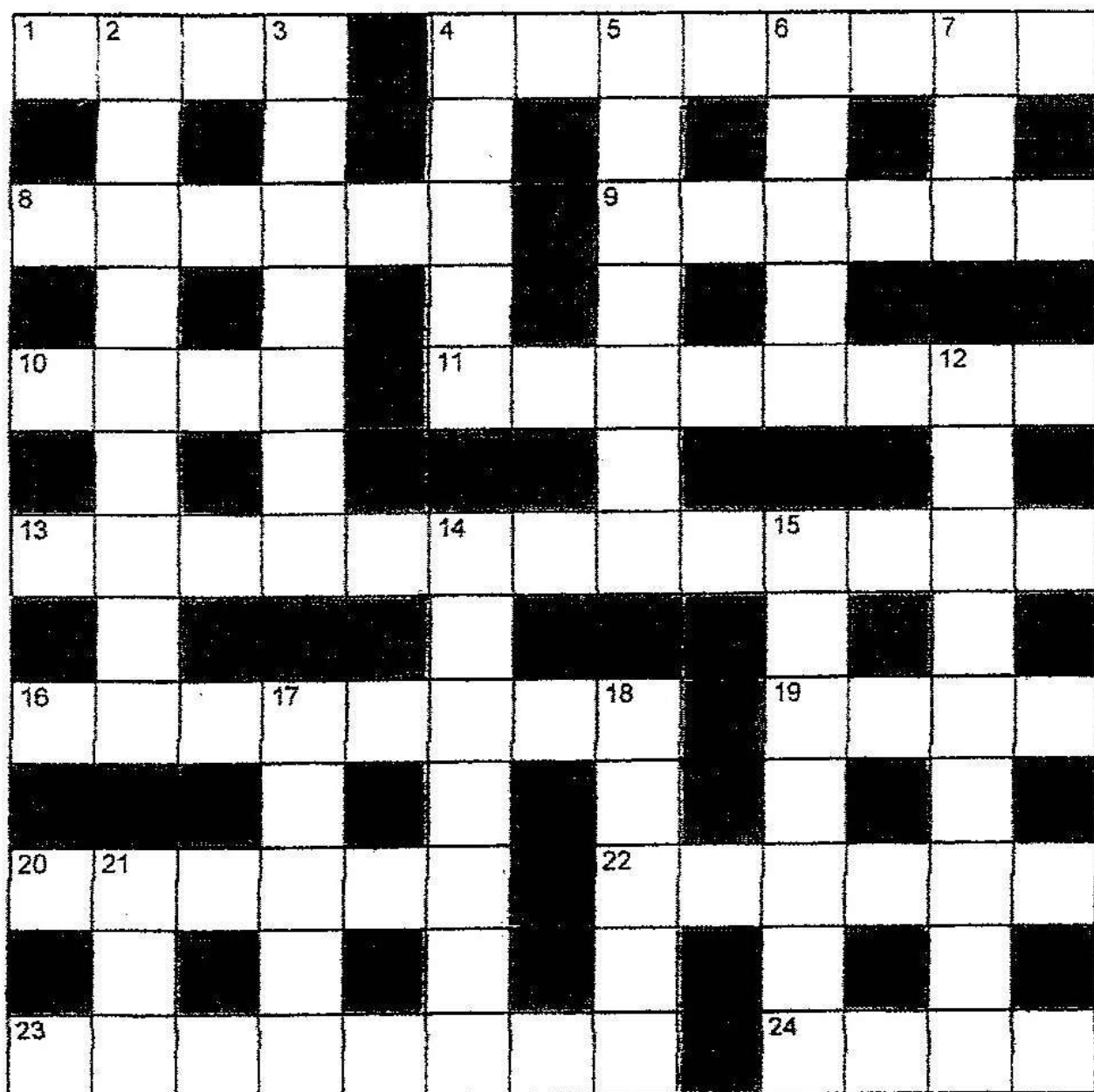


J. Muscott, Edinburgh

Editor's note: I've been told that the American Speedwell (*Veronica peregrina*) has appeared in Edinburgh streets. Have you seen it?

CROSSWORD BSS No. 13

By Cruciada



Clues across:

1. Magistrate's projection (4)
4. Take estimated time of arrival from 23/7 – you won't get a greenback (8)
8. American university hasn't left mountain plant (6)
9. Christmas labour gives up on impatient flower . . . (6)
10. . . . but does Christmas pudding contain one? Certainly not! (4)
11. Two unknowns see complaint about coconut, for example (8)
13. Hope their dram's well-blended in gender blender (13)
16. E.g. mix nut concoction, containing water and wood species (4,1,3)
19. Great identification carried out with network (4)
20. Enter in to long story of pearlwort (6)
22. Cultivated female (6)
23. In Crete, tea ordered and more besides (2,6)
24. At beginnings of life, extremely lovely flower (4)

Clues down:

2. Global habitat resounds with awe, it's said (9)
3. Billie Jean stand over dirty old man to plant this (7)
4. We hear Kelvin beats outer circle (5)
5. Fat person taking a run around university library with discoid (7)
6. Our Lady's finger, perhaps, could be former garden plant (5)
7. The cup that cheers home arrival with tips (3)
12. Liver rate ruined recovery (9)
14. Regularly creased ninety-nine in glossy picture (7)
15. Ring round Glasgow Institute on Tuesday with discrete numbers (7)
17. Report month's grain crop (5)
18. Trial article on shell (5)
21. Modifier key's not opp (3)

(Solution and crib on pp. 74 & 75)

A CARRIFRAN FORAY

Fifteen brave souls from the BSS, Edinburgh Nats. and Carrifran friends battled the wet and misty elements on a visit to Carrifran, an enlightened silvicultural experiment. Ten years ago, after long negotiations, planting of whips of native tree species started at Carrifran, a valley close to the Grey Mare's tail. This particular visit was to celebrate, one year on, the 70th birthdays of Mike Richardson, a former BSE Cryptogamic Secretary, and Roy Watling, past President and Secretary of the BSE for 16 years. The exercise was to determine what the fungi were in this newly created woodland. From the then number of different fungi found, with 24 this last spring, August 23rd brought the total to 163 with 3 further species on the tops around. Particular and justified excitement was kept for the finding of *Lycoperdon caudatum*, formerly known as *L. pedicellatum*, which is a much better epithet as the spores are truly pedicellate and quite unlike any other *Lycoperdon* spp.. It is described as rare and found only in southern Scotland and then on calcareous soil in woods and grassland. This is further from the truth as far as the Carrifran collection was concerned as it was found by the track side amongst grass in otherwise rough hill pasture

Other interesting finds were *Taphrina amentorum*, forming red, fleshy tongue-like outgrowths on the cones of alder, and pocket plums caused by *Taphrina pruni* on *Prunus spinosa*. Ergot and the Choke fungus were in evidence and used for demonstration.

The haul of 22 *Hygrocybe* spp., 15 entolomataceous mushrooms including *Leptonia lividocyanula*, *L. sodale* and *L. sarcitula* on this meeting, and 4 species of fairy clubs, confirms the site as a nationally important site for the unimproved grassland mycota. After a successful time and a good soaking the weather improved and the sun came out in time for the party to retire to the Glen Café for tea and a 'Happy Foray' Cake.

Lycoperdon caudatum is one of several interesting records of fungi this season. On the Scottish Field mycology website the bolete, *Gyroporus cyanescens*, which has a hollow stipe and goes vivid blue on bruising, was found by Liz Holden at Crathie and Dave Genney found *Suillus cavipes* with larch at Rogie falls.

Roy Watling, Caledonian Mycological Enterprises, Edinburgh

A BSS BRYOPHYTE EXCURSION TO TINTO HILL

16th May, 2009

Tinto Hill is a 2300 ft excrescence to the west of the Biggar to Abington road, near Lamington in South Lanarkshire, made all the more striking by the red scars of felsite towards the summit. The choice of this site was pure serendipity as it was the most obvious feature in a hectad (10 km square) that was poorly recorded for bryophytes. To optimise habitat diversity, the hill was approached from Woodend (O.S. grid ref.: NS 947367) on the north side of the hill.

Six hardy souls gathered on a very unpromising day in mid May, though, in the event, the odd sprinkling of rain served to freshen up the bryophytes and wasn't enough to ruin a productive day.

Following a stream in a southerly direction towards Maurice's Cleuch, the mire communities near the road were clearly influenced by base-rich ground water as indicated by *Chiloscyphus pallescens*, *Plagiomnium elatum* and **Splachnum ampullaceum*. Of the eleven species of *Sphagnum* recorded, three are base indicators: *S. contortum*, **S. flexuosum* and *S. subnitens*. A low soil-covered concrete structure, probably a settling tank for a drinking water supply, provided a suitable habitat for **Weissia brachycarpa* ssp. *obliqua*. More general moorland species included *Breutelia chrysocoma* and *Leptodontium flexifolium*.

At the upper end of the striking felsite screes in Maurice's Cleuch (NS 953353) a rock outcrop (NS 95253524) supported **Ditrichum zonatum*, undoubtedly the discovery of the day, and totally unexpected. This is an alpine species and, at 450 m, is close to its lower altitudinal limit. Associated species included *Lophozia sudetica* and *Gymnomitrium concinnum*. **Grimmia lisae* was recorded immediately below the screes. On our return a quick visit to the mixed woodland at Woodend added the epiphytes, **Ulota drummondii*, *Orthotrichum lyellii* and *O. stramineum*. A final stop at the car park at Fallburn led to the discovery of **Orthotrichum tenellum*, on an isolated Ash.

Thus, a range of habitats, from mixed woodland to streamsides, bogs, mires and subalpine rocks are represented over a trek of a little more than one kilometre. Even though only a fraction of the hill was explored, 130 species were seen, records that are contributing to a project of collecting records in advance of a new bryophyte atlas of the British Isles. Those that were new records for VC 77 (Lanarkshire) are indicated by an asterisk. *Bryum weigeli*, one of the few old bryophyte

records for Tinto, was not confirmed, so I am sure that further exploration is desirable. In addition, the excursion provided an opportunity to teach field identification of a range of bryophytes to three field surveyors. Everyone was well satisfied with what proved to be a most profitable day.

David Chamberlain, Edinburgh



THE APPARENT RAPID 'SPREAD' OF *FUMARIA REUTERI*

Martin's Ramping-fumitory (*Fumaria reuteri*) has previously only been recorded in the Isle of Wight and Cornwall. It is thought to be a neophyte, first recorded in 1904, possibly of recent introduction but might be an archaeophyte. It was added to Schedule 8 of the Wildlife and Countryside Act but as its status is unclear it is on the Waiting list on the 2005 Red Data List.

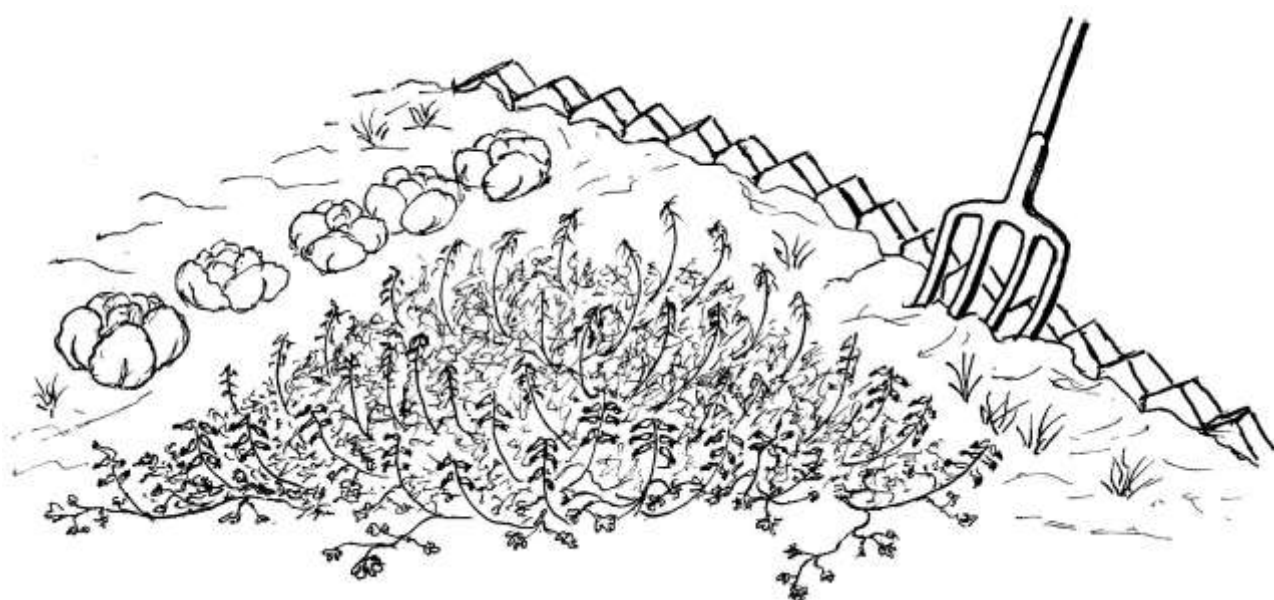
In 2006 Ian Teesdale found a number of plants which were eventually identified as *F. reuteri* in a neighbour's garden in Campbeltown in Kintyre. The neighbour had moved in comparatively recently and was trying to clear the garden with repeated applications of herbicide. The fumitory flourished in the cleared space in between applications. It was assumed that there had been some transfer, perhaps of a garden plant and that this was an isolated occurrence. Plants from this garden were grown and observed at the Royal Botanic Garden Edinburgh (see picture on inside front cover). In 2009 while driving through Kirriemuir a verge was observed where a new retaining wall was being built that had abundant fumitory on the bank behind. The fumitory was unusually pale being on the north side of a conifer hedge. On examination the characteristic *reuteri* 'jizz' was observed: a long narrow flower with a gap between the end of the sepal and the rounded spur. Microscopic confirmation showed a long point in the centre of the stigma equal to the length of the lobes on either side.

Around the same time Jim McIntosh was looking at some odd fumitory near St. Cyrus which was the same species. This was dark pink, a more typical colour, and several robust plants were growing in a weedy corner of a potato field. This plant has long parallel-sided flowering spikes with well spaced-out flowers. The sepals are comparatively long and narrow, often sparsely toothed near the base. This species is probably most like *F. muralis* but the sepals are usually longer and narrower. The whole flower is also longer and narrower than *F. muralis* with a very well-defined darker tip.

Now that there are three confirmed occurrences in Scotland it is possible that more might be found. It raises the question of whether this indicates an expansion of range, with an odd gap across most of England, or if perhaps it is under-recorded, which seems more likely. It is possible that milder weather has encouraged it to spread but perhaps

this winter will not prove so favourable. As there is material in cultivation at the RBGE we can provide fresh plants for examination and in future fumitory workshops this species will be included. The next workshop is on Wednesday, 9th June, 2010, commencing at 10.00 a.m. at the RBGE. The afternoon will include a field visit which might include *F. reuteri*, depending on a local field site being located by then. To book for the workshop 'phone Heather McHaffie on 0131-248 2876 or e-mail h.mchaffie@rbge.org.uk

Heather McHaffie, RBGE



COMMUNITY WOODLANDS PROJECT

This year (2010) will be the last year of fieldwork for the Community Woodlands Project. The project is organised by the BSS and involves collaboration with members of the Community Woodlands Association (CWA). The aims of the project were set out in *BSS News* No. 90 and can be viewed on the BSS website (<http://www.botanical-society-scotland.org.uk>). Before outlining plans for the coming field season, here is a summary of fieldwork in 2009.

Progress in 2009

The three woodlands visited are all being established on reclaimed land, two of them on former industrial sites and one on former heathland (*for pictures see inside front cover*). The data from these surveys are being stored by the BSS and copies have been sent to the woodland management groups, the Local Records Centres and the relevant BSBI Vice-county Recorders.

Darnick Community Woodland, near Melrose, Roxburghshire
(centroid: NT 529345)

This site, 2.74 ha in area, occupies space between two diverging exit roads east of the roundabout at the western edge of Darnick village. The exit road along the NW edge of the site is the B road into Melrose; along the SW edge is the Melrose by-pass. Broomilees Road, leading westwards out of Darnick village, divides the site into two parts, Shunters Wud, a roughly L-shaped area to the north and Wee Shunters Wud, an elongated triangular area to the south. The land has been reclaimed from former railway use and was planted with broad-leaved tree species as a millennium project, starting in 1998. Although most of the trees were planted at this time and have reached pole stage, a few were already there and some have been planted since. In Shunters Wud the most ebullient of the planted trees is Aspen, a few of which are now at tree stage and have many suckers springing up around them. Other planted tree species include birches, oaks, Ash, Alder, Bird Cherry, Gean, Elder, Hazel, Hawthorn and Sycamore. As the trees are not yet at full height there is currently no clear separation of a canopy layer from an understorey layer. Between blocks of planted trees grassy paths have been left and there is an unplanted area at the northern end of the site. The ground flora is dominated by grassland species, e.g. grasses and buttercups, but also contains wasteland species (e.g. Changing

Forget-me-not) and wetland species (e.g. Ragged Robin). Two orchid species were found (Common Spotted and Northern Marsh Orchids). Shade-loving species are few (e.g. Lesser Celandine), but may increase as the shade increases. Ferns have been planted under the trees. In Wee Shunters Wud, which slopes downhill from Broomilees Road, there is a wet patch at the bottom with a typical wetland ground flora, including Great Willowherb, Marsh Woundwort and Soft Rush.

The newly acquired field next to Shunters Wud adds a further 1.21 ha to the community woodland site. At the time of our visit the field had not yet been planted with new trees. Pre-existing trees were scattered at the edge and along the former railway bank (e.g. Gean, Hawthorn and Pedunculate Oak), but most of the area was covered by herbaceous grassland species (e.g. grasses and buttercups). There were also a few bare patches with bare-ground species (e.g. Changing Forget-me-not and Parsley Piert).

Gordon Community Woodland, Gordon, Berwickshire (centroid: NT 662442)

Gordon Community Woodland covers a very large area (85 ha), much of it on former heathland extending N and NE from the A6105 Gordon-to-Greenlaw road, one mile east of the village of Gordon. As the site is so large and has been recorded for several years, it was decided not to attempt to cover the whole area, but to focus mainly on two sections, a well-wooded section at the SW corner of the site (centroid: NT 659435) and a little-visited section at the NE border of the site across the Mack's Mill road (centroid: NT 664446). There were only two of us from the BSS (myself and Barbra Harvie) so we surveyed as much as we could of these two sections in the time available.

The SW section of the site is the oldest part of the community woodland and is steeply banked beside the Eden Water. The woodland in this area is well layered. The canopy layer contains some mature trees, e.g. of Ash, birch, Pedunculate Oak, Scots Pine, Sitka Spruce and Wych Elm. Younger age classes are also present, giving hope for the future. There is a rich understorey of smaller trees and shrubs, e.g. Blackthorn, Elder, Hawthorn, Hazel, Holly, Laburnum, Rhododendron, Rowan, Spindle, Goat Willow and Yew. The ground flora is most diverse beside the river and at the woodland edge, but less so in the thick of the wood. The ground flora contains woodland, wetland, grassland and heathland species, e.g. Broad Buckler and Male Ferns, Meadowsweet, Brooklime, grasses, Heather and Heath Bedstraw.

In contrast, the NE section of the site has been relatively recently planted (8 – 10 years ago) with a variety of tree species, leaving open rough grassy and heathy ground between them. The main woody species present are birch, Hawthorn, Pedunculate Oak, Rowan and Whitebeam. Other woody species are occasional or rare, e.g. Aspen, Beech, Copper Beech, Elder, Hazel, Hornbeam, Scots Pine, Norway and Sitka Spruces and a Violet Willow. The planting is too recent for separate canopy and understorey layers to have developed in this section of the woodland. The ground flora consists mostly of grassland and heathland species, e.g. grasses, thistles, Tormentil, Heath Bedstraw and Heather. Two clumps of Petty Whin were found near clumps of Heather. Wetland species are also present, e.g. Jointed Rush, Soft Rush and Marsh Cinquefoil.

Crossgates Community Woodland, Crossgates, Fife (NT 148892)

This area of 14.6 ha, known locally as 'The Taft', is irregularly shaped and elongated in a north-south direction. The land was formerly owned by the Coal Authority and is being reclaimed from former mining and arable farming activity, with a variety of plantings. In addition to the plantings, the area has a belt of long-established broad-leaved woodland, including some mature trees, around the outer edge of the planted areas. Beyond the woodland, to the south, the land is still in arable use. We surveyed the established woodland in two parts. The first part at the NE edge of the site is dense Oak/Ash woodland with frequent mature trees of Pedunculate Oak. Ash trees are frequent but other tree species are rare, e.g. Sycamore, Wych Elm and Downy Birch. The understorey includes Hawthorn, Bramble and Raspberry and the ground flora contains woodland and grassland species, e.g. Broad Buckler and Male Ferns, Wood Avens, Pignut, Hemp Nettle, Common Dog Violet, Creeping Buttercup and Yorkshire Fog. The second part of the established woodland is more open and contains more species. Pedunculate Oak, Ash and Sycamore trees are frequent, with occasional mature individuals. Downy Birch is also present. The understorey includes Rowan, Gorse, Hawthorn, Blackthorn, Ivy, Sherard's Downy Rose, Bramble and Raspberry. The ground flora is well represented and includes woodland and grassland species, e.g. Broad Buckler and Male Ferns, Tufted and Wavy Hair-grasses, Rough Meadow-grass, Nipplewort, Common Figwort, Meadow and Creeping Buttercups. There is dampness in both of these woodland compartments.

In contrast, the recently planted areas are grassy or sparsely grassy, with spaced saplings of planted tree species. We surveyed the planted areas in two parts, the first being much more grassy than the second. The more grassy area either has block plantings of one tree species, e.g. Ash or Oak, or mixed plantings of e.g. Ash/Gean, Oak/Hazel or Oak/Alder. The grasses include Yorkshire Fog and also arable species, e.g. Timothy and Cultivated Oat. Non-grassy species include field and wayside species (e.g. Field Forget-me-not and Knotgrass) and those typical of disturbed ground (e.g. Long-headed Poppy). The second planted area, which is more sparsely grassy than the first, contains predominantly Oak and Ash saplings, with groups of Alder and Hazel saplings towards the edges. In addition to the planted tree species, young Rowan, Downy Birch and willows are springing up spontaneously. Among the sparse grasses are species typical of waste ground (e.g. Colt's-foot and Rosebay Willowherb), but also, surprisingly, woodland species (Broad Buckler and Male Ferns) and orchids (Common Spotted and Northern Marsh Orchids). This area is more diverse than the first of the planted areas we surveyed, and has been in its current condition for three years. It will be interesting to see how it develops in the future.

Plans for 2010

As mentioned at the beginning of this report, 2010 is the last year of fieldwork for this project. It would be a great boost to the database if BSS members felt able to contribute. If you would like to be involved please visit the BSS website (www.botanical-society-scotland.org.uk) to find out what the project entails. Then visit the website of the Community Woodlands Association (www.communitywoods.org) and look at their map of member woodlands to see if there is one near you. If there is, you might like to do a recce of the woodland to familiarise yourself with the lie of the land and the vegetation. Then you could ask the woodland management group if they would like their woodland to be surveyed for the project and if they would like to take part. If they are agreeable, a data-gathering visit can then be arranged. Data-gathering visits involving botanists and woodland management group members are beneficial to both. Recording sheets are downloadable from the BSS website. When you have completed them, please send them to Barbra Harvie, as instructed at the top of the sheet. If you need any further information,

please contact Barbra (Barbra.Harvie@ed.ac.uk) or myself (b.sumner@btinternet.com). Thank you.

Acknowledgements

We are grateful to members of the woodland management groups for guiding us around their woodlands in 2009. The guides were as follows: Brenda Robertson and Jimmy Wintrup (Darnick), Margaret Fairgrieve and B. Paterson (Gordon) and Robert and Alec Arnott (Crossgates). We (Barbra Harvie and I) thank BSS member, Jean Murray, for helping with the survey at Darnick.

Barbara Sumner, Midlothian

DRAFT MINUTES OF THE BSS AGM, 2009

Minutes of the AGM held on Thursday, 18th June, 2009, at 5.15 p.m. in the Lecture Theatre of the Royal Botanic Garden Edinburgh. Thirty-one members were present. The Vice-President, Dr. Stephan Helfer, chaired the meeting.

1. Apologies: S. Blackmore, D. Burslem, P. Cochrane, J. Holland, C. Jeffree, L. Nagy, C. Pitcairn, J. MacKintosh, J. Raven, E. Schwarz.

2. Minutes of the AGM of 2008:

The minutes of the AGM held on 19th June, 2008, were accepted as true by a show of hands. Their approval was formally proposed by Anne Barker and seconded by Alex Twyford. They were then signed by the Vice-President.

3. Secretary's Report on behalf of Council for Session 2008/2009:

The report was distributed to members present. No points for discussion were raised. The report was accepted by the meeting and signed by the Vice-President. It will be published in *BSS News* 93.

4. Student Symposium:

A brief report was presented by A. Twyford, the Student Representative on Council, to raise awareness of the forthcoming BSS Student Symposium. The Symposium will provide an informal setting for students to present their findings from research. The date of the Symposium has been changed to 22nd September, 2009, to avoid a clash with the BES Conference, and will cost £14. Details are on the BSS website.

5. Treasurer's Report:

The Treasurer reported that the financial situation of the Society is very satisfactory with a balance of £6950.00. Subscription rates continue to remain unchanged for the 2009/2010 session as previously agreed by Council. Start-up rates for the new journal have been very high, as expected, and the Society allowed for set-up editorial costs of £3000.00 annually over two years. There are implications for the financial reserves or future subscription rates if costs continue at this level although as journal sales increase there will also be an increase in royalties. The Treasurer's report was accepted by the meeting. A copy of the accounts for 2008/2009 will be published in *BSS News* 93.

5. Elections to Council for 2009/2010:

The Vice-President, Dr. David Burslem, and one Councillor, Dr. Liz Kungu, are due to retire in June, 2009. All other office bearers have agreed to serve for another year and were re-elected (proposed by Mr. Roger West, seconded Dr. Liz Kungu). No additional nominations were received.

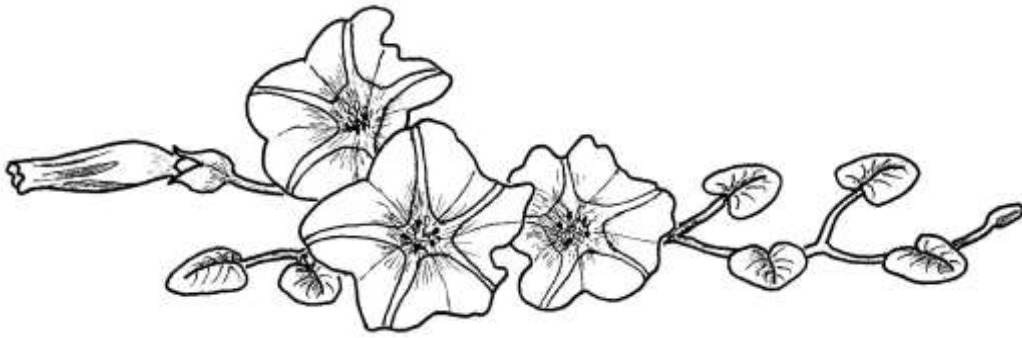
6. Election of Auditor for 2009/2010:

Mrs. D. Millar (proposed by Dr. Maria Chamberlain, seconded by Dr. Anne Barker) was elected.

7. Any other business: No points were raised.

At the completion of business Ms. Susie Kelpie, Royal Botanic Garden Edinburgh, gave an interesting and informative talk entitled: *Promoting plant awareness: education programmes at the RBGE*.

Dr. Barbra Harvie
Hon. General Secretary



BSS STUDENT SYMPOSIUM, 2009

Twenty years since the last BSS Student Symposium, the recently resurrected symposium was held on the 22nd September, at the Royal Botanic Garden Edinburgh. Thirty-one delegates from 11 institutes attended an enjoyable, if somewhat packed day, focusing on botanical research in Scotland or research of Scottish native plants.

After a slightly hectic beginning, uploading PowerPoint presentations and helping put up posters, the conference soon got off to a good start. Dr. Richard Ennos (University of Edinburgh) chaired the first session on conservation ecology, which included 5 excellent talks on everything from lichens and ferns to the effect of nitrogen deposition on *Sphagnum* communities. Perhaps most memorably, Lorna Wilkie (Centre for Ecology and Hydrology, Edinburgh) showed pictures of her homemade artificial seagrass beds, which are used as a model to observe stabilisation of sand dunes. These are individually hand crafted at home with her mum!

The second session, focusing on ecology, adaptation and habitat change included some of the best talks of the day. Rachel Edmans (Scottish Agricultural College) presented her undergraduate work on biodiversity of mill sites along the water of Leith. This project showed a biodiversity assessment of remarkable breadth, completed in a very short time period. Matti Salmela (University of Edinburgh) presented his detailed analysis of Scots Pine – one of the iconic Scottish plant species. This talk explained how recent molecular techniques can reveal important factors to be considered by conservationists.

A buffet sandwich lunch was followed by a brief walk in the garden – cut short by the typically unreliable Scottish weather! After lunch, the meeting's focus changed to tropical and temperate ecology. Toshie Mizunuma (School of Geosciences, Edinburgh) gave us an insight into the different methods used to capture phenological recordings of leaf canopies – which will no doubt be of interest to those attending next year's BSS phenology conference. Marjan van de Weg (School of Geosciences, Edinburgh) provided an excellent overview of her ecophysiology work in Peru –highly relevant at this time of concern about carbon cycling and climate change.

The final session of the day focused on molecular ecology, taxonomy and evolution –and included a wide range of topics. Nicolas

Ruch (RBG Kew) provided an entertaining yet informative discussion about genus *Orchis* (Orchidaceae), using molecular work to question species delimitation in orchids. The final talk was a keynote presentation by Richard Abbott (University of St. Andrews) on gene transfer in *Senecio*. This talk focused on his long-running research on this composite species, and how gene transfer has occurred between introduced species and those that are native to the UK. This presentation highlighted this important evolutionary case study, which is still the only example of the transfer of known genes between species which has a tractable adaptive significance. As a long-time supporter of the society (and a former President) it was great to welcome Richard back to the lecture theatre.

Overall, the day was immensely enjoyable, and intellectually stimulating. Clearly botanical research is thriving, and the quality of the presentations throughout the day was exceptional. This made judging the award for presentation tough, however Elizabeth Bourne (Macaulay Land Use Research Institute) was awarded the prize for the best presentation, for her talk entitled: *Understanding local adaptation in northern rock cress: coping with serpentine syndrome*. This talk illustrated how local adaptations can be tested, and used lab.-based experiments to assess the responses of populations to environmental change. Mobina Shaukat Ali (Royal Botanic Garden Edinburgh) was awarded the prize for the best poster, which was entitled: *Revealing functional relationships between ecophysiological and leaf micromorphological traits in two Central American Begonia species*. This well-presented poster showed a clear structure and promises to be the start of an exciting project.

Almost a year since planning started, the symposium proved a great success, and thanks are due to Chris Jeffree who has played a role in every stage of the planning, as well as to all the speakers and session chairs who made it such an enjoyable day. The proceedings of the symposium can be downloaded from the BSS website, and there is plenty of scope for a symposium to be held in future years.

Alex Twyford, BSS Student Representative, RBGE

(Two photographs shown at the symposium are reproduced on the front cover, outside and inside.)

SCOTTISH ANNUAL MEETING, 2009

The BSBI/BSS Scottish Annual Meeting on 7th November, 2009, was held in the Queen's Hotel, Perth and was very well attended, 106 delegates cramming into the conference room, which was large enough to have some space to set out stands of posters and exhibits. Summerfield books were in attendance as usual, offering a surprisingly large number of new and irresistible botanical books as well as a range of other tempting products, such as LED-illuminated hand lenses.

The delegates were welcomed to the meeting by the Chairman, **Chris Miles, BSBI's Scottish Regional Representative**, and then **Michael Braithwaite, President of BSBI**, outlined BSBI activities during the year. The Spring Conference in Berwick-upon-Tweed, focusing on alien trees and shrubs, had been a success, and a report about the naturalisation of alien trees in the countryside is now available on the BSBI website. He announced an intended 2010 spring visit to Kindrogan to talk about Rare Plant Registers.

Several new books have been published in the BSBI Handbook series, No. 12, *Fumitories*, by R.J. Murphy and No. 13, *Grasses*, by Tom Cope and Alan Gray in addition to No. 11, *Water Starworts of Europe*, by R.V. Lansdown that appeared in 2008. *Fumitories* breaks the mould by being published in full colour on glossy paper, and is most attractive. *The Vegetative Key to the British Flora*, by J. Poland & E.J. Clement was reported to have sold 2800 copies already. The eagerly-anticipated *Service Trees, Rowans and Whitebeams*, by Tim Rich and colleagues, is in draft and expected in 2010. A conference is planned for Edinburgh to celebrate the *New Atlas of the British flora* and the 50-year anniversary of the original Atlas. Mr. Braithwaite looked forward to the next atlas and encouraged delegates to get out and square-bash at the tetrad scale. **Deborah Long, Conservation Officer of Plant Life Scotland**, reported that PlantLife was under some financial constraint but were continuing with their surveys of Twinflower (*Linnaea borealis*) and the impacts of juniper management. Many of their publications can be downloaded as pdf files from <http://www.plantlife.org.uk/uk/plantlife-saving-species-publications.html> and include a new management guide, *Managing seashores for Sea Loch Egg Wrack* (2009). In April, 2009, Plantlife launched a new survey of Sea Loch Egg Wrack or Wig Wrack (*Ascophyllum nodosum* ecad *mackayi*), a distinctive golden-brown

seaweed that grows unattached in sheltered sea-lochs. Species dossiers are detailed reports on species which are part of Plantlife's endangered species conservation programme, 'Back from the Brink'. Plantlife has published a new report called: *The Ghost Orchid Declaration*, in response to the recent declaration that the species is extinct. This is intended to be a call-to-arms to governments, Members of Parliament, conservation organisations and the general public to ensure that we do not lose any more of our irreplaceable flora. The declaration can be downloaded from their web site. PlantLife organises a range of walks and fungal forays aimed at people without specialised knowledge, advertised through the BSBI website.

Chris Jeffree, President of Botanical Society of Scotland, summarised the Society's activities during 2009. Membership had remained steady, with some welcome increase in student membership, and the Society's finances are healthy, although the new journal is likely to make demands on the budget for a year or two yet. An interesting and varied programme of lectures in Edinburgh, organised by Maria Chamberlain, had noticeably increased attendance at the meetings, and the BSS is focusing on ways to increase participation further.

The new journal, *Plant Ecology and Diversity*, has now been selected for listing in the 2011 *Journal Citation Reports* and *Science Citation Index Expanded*. *PED* will have an Impact Factor from 2011, which is seen as vital for its survival and success as a scientific journal. *PED* articles are now listed on *Web of Knowledge* and, just as gratifying, so are articles from the *Botanical Journal of Scotland*, the archive back to Volume 1 (1844) of the *Transactions of the Botanical Society of Edinburgh* having been scanned by *PED*'s publisher, Taylor and Francis, and made available on the Informaworld website. See <http://www.informaworld.com/smpp/title~db=all~content=t793409773>

It is twenty years since the last BSE Student Symposium was held, a series that provided students with the opportunity to present the results of their research in a supportive, low-pressure meeting of their peers. Thanks to the enthusiasm and energy of Alex Twyford the series has now been resurrected. The BSS Student Symposium held on the 22nd September, 2009, at the Royal Botanic Garden Edinburgh was a great success, with sponsorship from RBGE, Dynamic Earth and the Scotch Whisky Experience. Thirty-one delegates from 11 institutes attended a packed day of talks covering a wide range of botanical topics, from ecology and evolution through to molecular studies. The symposium highlighted the current focus of Scottish research institutes

on the topical issues of climate change and habitat degradation, whilst also covering potential routes to maintain Scotland's biodiversity. The symposium shows the promising diversity of current whole-plant botanical research in Scotland. Abstracts of the meeting's talks, submitted by the presenters at the symposium, can be downloaded from the BSS website. Alex is currently working to obtain external funding to support a larger-scale meeting in 2011.

The Society's programme of research meetings has continued with a joint AAB/BSS International meeting in Grantham in December, 2009, on 'Positive Plant Microbial Interactions in Relation to Plant Performance and Ecosystem Function'. A 3-day international research meeting on 'Phenology: Plant ecology and diversity' is planned for 7th – 9th April, 2010, at the Scottish Agricultural College, Edinburgh. The meeting aims to cover a broad range of topics from observational phenological recording, to understanding of the mechanistic basis of the timing of flowering and the ecological implications of climate change. These meetings provide scientific papers for *Plant Ecology and Diversity*, and help to ensure its success. Plans are underway to re-introduce the *Transactions of the Botanical Society of Scotland* as an electronic journal. The plan is to provide members with some of the features of the *BJS* and its predecessor, *TBSE*, which cannot be catered for in either *BSS News* or *PED*. These include less formal scientific reports and opinion papers, field reports of local and Scottish species records or vegetation surveys, extended abstracts, papers and illustrations from the BSS Lecture and Field Meeting programmes, and papers from the Student Symposium. A new BSS website is under development, which will have a more professional look and feel, and will provide members with more facilities including the capability to pay their membership subscriptions online and the capacity to host the new *Transactions*.

After the coffee break, **Jim McIntosh, BSBI Scottish Officer**, gave his Annual Report, the first of the new 3-year Scottish Officer project which began in 2008. A full program of field meetings was organised across Scotland during 2009, including a series of four beginners' meetings at Arthur's Seat, Shewalton Sandpit, Whitehills and Whitlaw Mosses, that were attended by a total of 70 people.

The BSBI's work on the production of Rare Plant Registers has been pushing ahead, promoted by a weekend workshop in Kindrogan in April, a report of which is in preparation. One RPR was produced for VC 90 (Angus), and another, for VC 106 (Easter Ross), was updated. A

series of workshops is planned for March-to-August, 2010, to promote better understanding and better recording of under-recorded groups. Despite their importance to Scotland's landscape and economy, conifers are rather poorly understood by botanists and consequently under-recorded, so there will be two conifer workshops in March to be run by Cameron Crook and Jim McIntosh. A weekend *Alchemilla* Workshop led by Margaret Bradshaw is planned for 17th – 18th July in Glen Clova (VC 90) where the Vice-county Recorder has recently found *Alchemilla glaucescens*. The group will also look for *Alchemilla wichurae* and other species on The Cairnwell, 933 m, Glenshee. On 7th August Jim will lead a workshop: 'Introduction to Sedges' (sedge-beginners welcome) at Whitlaw Mosses (VC 80), a series of basin mires with a diverse sedge flora including *Carex paniculata* and *C. diandra* (Greater and Lesser Tussock-sedge), *C. lasiocarpa* (Slender Sedge) and *Carex limosa* (Bog-sedge).

The Threatened Plant Project launched by BSBI's head of research in 2008 had continued, with Narrow-leaved Helleborine (*Cephalanthera longifolia*), Frog Orchid (*Coeloglossum viride*), Maiden Pink (*Dianthus deltoides*), Heath Cudweed (*Gnaphalium sylvaticum*), Opposite-leaved Pondweed (*Groenlandia densiflora*), Tubular Water-dropwort (*Oenanthe fistulosa*) and Wood Bitter-vetch (*Vicia orobus*) selected for study in 2009. TPP is to continue and species for 2010 will include Corn Marigold, *Polystichum lonchitis* and *Sibbaldia procumbens*.

Site Condition Monitoring of SSSIs is a significant part of the Scottish Officer's remit, the aim being to re-find previously-reported species and populations, and noting evidence of regeneration or decline. Jim is currently responsible for SCM of 33 sites, a third of SNH's vascular plant monitoring program. New SCM surveys were undertaken of Carn Gorm and Meall Garbh, St. Cyrus and Kinnabar Links, Sunart and Upper Solway Flats, together with follow-up work on the 2008 surveys at Glen Strathfarrar and Tulach Hill. A contract was obtained, through the Scottish Project, to extract the 22,500 species records from the 1999 - 2005 SCM reports. These data will shortly be available to VCRs via the BRC Vascular Plant Database and the NBN Gateway.

The project to computerise the Scottish BSBI Vice-county records has now been running for five years, and some 500,000 records have been digitised, with about 200,000 to go to reach the target. This is a remarkable achievement. The work, which is funded by SNH and the Esmé Fairbairn Foundation, is the first step towards producing checklists and floras and the data feed into the BSBI Maps scheme webpages

which update the maps in the New Atlas. The data will be available to conservationists online via the National Biodiversity Network (NBN) Gateway, helping them to monitor and conserve rare plant populations. Jim noted that some of the hardest datasets have been left to the end, but nevertheless hopes that all important datasets can be computerised.

Robin Payne, SNH policy and Advice Manager spoke on SNH's perspective on the SCM programme. He noted that there are one hundred and fifty SSSIs designated for their vascular plant assemblages, and that their monitoring is split between SNH and commercial contractors with 32 sites being monitored by volunteers. SCM is the way government finds out whether the protected-areas system is working or not. SCM data can be fed directly into the developing suite of Rare Plant Registers. BSBI receive £35k from SNH in grant support for BSBI's work on SCM. The synergistic association of SNH with BSS, RBGE and BSBI Scotland has resulted in it being referred to as 'the Scottish Model'. There will be a third cycle of SCM, probably focusing on sites where populations are seen as particularly threatened or at risk. Robin thanked BSBI members for their help on the programme so far.

Heather McHaffie described some of the current projects at the RBGE, which is taking a lead on Target 8 of the 'Global Strategy for Plant Conservation'. The aim is to bring at least 60% of the UK's threatened native species into *ex-situ* collections and propagate them at the National Botanic Gardens of Scotland with the objective of re-introducing at least 10% of the species back into their native habitats.

With the discovery of *Fumaria reuteri* in Cambeltown and later in Kirriemuir and St. Cyrus, near Montrose, the six Scottish species of *Fumaria* have increased to seven, which will be the subject of a workshop on 9th June, 2010, at RBGE. The species was previously only known from the Isle of Wight and southern England.

RBGE runs a 'Certificate in Field Botany' course that provides students with basic plant ID and survey skills for field botanical recording in a 60-hour course of eight taught sessions. The individual modules can be tailored to suit the needs of any user group, with a general botanical slant, or a focus on local floristic elements, specialist habitat types or taxonomic groups, fungi, lichens or survey techniques such as the UK National Vegetation Classification (NVC) system. Options include a 7-day residential field course on the Isle of Eigg and a 14-day residential

‘Tropical Botany Field Course’ at Las Cuevas Research Station in Belize.

Species Action Framework provides funding from the Scottish Government for studies of a small number of plant species. Currently these are *Pyrola media*, *Platanthera bifolia*, *Melampyrum sylvaticum* and *Salix lanata*. *Salix lanata* occurs in only thirteen areas, the very fragmented distribution resulting in problems with seed set and viability. Populations in Corrie Sharroch that had been deer-fenced for 18 years have shown little regeneration, mainly due to competition from ungrazed vegetation.

Alistair Godfrey reported on *Calamagrostis purpurea* (Scandinavian Small-reed), a UK nationally rare species, recorded in only six localities in Scotland, and which appears to be declining. It is an apomict derived by hybridisation between *C. canescens* and *C. epigeos*. Our plant is subsp. *phragmitoides*. The plant may be under-recorded so Alistair urged us to look out for it. He demonstrated the type of habitat to search in, especially winter-flooded willow carr.

Kevin Walker discussed how to make the field records of the Threatened Plants Project available to end users, and urged more work to be done to address the question of how best to archive the data. Paper records can still be interrogated today, but it is important to consider how the paper backlogs of data get passed on from one VC recorder to the next. Rapid changes in digital media standards and hardware make it uncertain whether digital records made 20 years ago will be readable now. Equally, current digitised data may not survive into the future unless a strategy is adopted to ensure its survival.

In the ‘**What does the panel think**’ session, Alex Twyford asked the panel what the BSBI was doing to engage the interest of the next generation of botanists. Jim McIntosh replied that the BSBI have tended to rely on the BSS to inspire young Scottish botanists, but the BSBI generally has seen more young botanists coming to field meetings. An integrated approach is needed from SNH, PlantLife Scotland, BSBI, BSS and RBGE – the Scottish model again! – to raise awareness. It was reported that Caithness has a website for the county with a biodiversity thread featuring plants, moths and cetaceans, that serves to involve young people who are otherwise isolated, either geographically or socially. The suggestion was raised that local recording centres might be set up so that schools could become involved with local recording and plant identification. Mark Watson drew our attention to Plant Talk

Scotland, a blog for people interested in Scottish Botany, that can be accessed at <http://bsbiscotland.easyphpbb.com/index.php>

To close the meeting, **Richard Ennos, University of Edinburgh**, gave a lecture entitled: *Evolutionary interactions between plant taxa, and their implications for conservation*. Richard noted that there are few Scottish endemics, because of the glacial tabula rasa, but there are some, and these probably evolved *in situ*. The Arran Whitebeam, *Sorbus arranensis*, is apomictic, forming clonal populations from viable unfertilised seed, and results from a fertile cross between *Sorbus aucuparia* and the rock Whitebeam, *Sorbus rupicola*. He made the case for conservation not only of the threatened plants, but also of the evolving systems that gave rise to them.

Chris Jeffree, President of the BSS, Edinburgh

Exhibits at the Scottish Annual Meeting, 2009

The range and variety of exhibits was impressive as always and an array of posters, literature, herbarium specimens, photos, live plant exhibits and computer slide shows were on display. There was ample time during the breaks from the lecture programme to peruse the exhibits at the back of the conference room and chat with exhibitors.

A summary of the exhibitors' abstracts follows below.

***Cotula alpina* (Hook.f.) Hook.f. (Alpine Cotula) in north-west Yorkshire, new to Britain and Europe. VC 65. Linda Robinson**

Alpine Cotula was recorded in June 2009 in an isolated grouse moor on the border between VC 64 and VC 65 and confirmed by Eric Clement: a first record for Britain and Europe. The species is native to Australia but subsequent fieldwork recorded the species in 21 tetrads (in 4 English hectads of VCs 64 and 65) and further confirmed records in VC 105 (Wester Ross). It seems likely that at least some records of *Cotula squalida* (Button Weed) should be re-determined as *C. alpina*.

Some new and remarkable Cumbrian records. VC 69. Geoffrey Halliday

Nine specimens were exhibited including: False Virginia Creeper and Pale Corydalis (both garden escapes); Motherwort and Milk Parsley (rediscovered after an absence of 30 years); Southern Wood-rush and Woad.

Nuclear inspection reveals unexpected orchid populations. VC 72. Chris Miles

Records of Bee Orchid (new to Dumfriesshire) and Lesser Butterfly Orchid recorded in a biodiversity audit of the site of a nuclear power station, in the process of decommissioning. Due to their location these are protected by armed police, so should be safe from external interference! (Poster presentation.)

Athletes' village for Commonwealth Games – site of unusual plant collection. VC 77. Peter Macpherson

The exhibit featured an unusual collection of plants that grow at the edge of a wood which is to become the Athletes' Village for the Commonwealth Games, Glasgow, 2014.

Roxburghshire and Selkirkshire plants 2009. VC 80 and VC 79. Rod Corner

VC 79	VC 80
Narrow Small-reed x Purple Small-reed	Stiff Sedge x Common Sedge
Slender Tufted-sedge x Common Sedge	Spiked Sedge
Sharp-flowered Rush x Jointed Rush	Alternate-leaved Golden Saxifrage
Rigid Hornwort	Round-leaved Wintergreen
	Eastern Rocket

Berwickshire RPR Generation Two: hectad reports. VC 81. Michael Braithwaite

A record of the repeat-recording on a hectad by hectad scale to chronicle how populations of rare and scarce plants have fared. Including observations of more new colonisation than losses on a short section of coast; the unexpected frequency of Midland Hawthorn; variations in hybridisation of Creeping Thistle and Marsh Thistle.

Finds in west Perthshire in 2009. VC 87. Liz Lavery, Paul Stanley and Roy Sexton.

A number of interesting finds were exhibited from individual outings and those made with the Botanical Section of the Perthshire Society of Natural Science.

***Calamagostis purpurea* in mid-Perthshire. VC 88. Alistair Godfrey**

Scandanavian Small-reed is recorded from only one location in mid-Perthshire, where it has been known for 30 years. The exact extent and distribution of the population and a series of autecological observations were made during 2009. The data collected were presented in a talk.

Caenlochan – current status of selected vascular plants. VC 90 (Angus). Theo Loizou

A series of photographic images was presented to demonstrate the current status of selected vascular plants from the botanically rich area of Caenlochan in Angus.

Working on the 'Threatened Plants Project' as a sabbatical. VC 90 (Angus) and VC 92 (South Aberdeenshire). Eric Meek

In a two-week programme a successful search was made for Autumn Gentian, Maiden Pink, Purple Milk-vetch, Frog Orchid, Intermediate Wintergreen, Annual Knawel, Heath Cudweed and Northern Hawksbeard in sites as diverse as golf courses, industrial sites, Corrie Fee and a busy roadside. (Poster presentation.)

Plants and places from Deeside to Saudi Arabia. VC 92. Kathy Fallowfield and Neil Cook

A combination of visual displays and bench displays included "white sports" a common mutation in some familiar flowers; plants from the deserts of Saudi Arabia's eastern province; the relationship between Bird Cherry and Small Ermine Moth.

Which pampas grass? Alison Rutherford

An exhibit that set out to clarify confusion between species of Early Pampas Grass (a native of New Zealand) with examples of *Cordateria richardii* (Endl.) Zotov., *C. richardii* ambig. and *C. fulvida* (Buchanan) Zotov.

BSBI field meeting, Isle of Tiree, Mid Ebudes, July 2009. VC 103. Lynne Farrell

A display of some of the more significant records made and specimens found on the trip plus a short report of each day, together with computer images of the habitats found and species recorded. 20 of the possible 42 tetrads were recorded.

***Trifolium fragiferum* (Strawberry Clover) in Western Scotland. VC 72 (Dumfries); VC 103 (Coll); VC 110 (South Uist). David Pearman**

Strawberry Clover is recorded in only three sites on the west coast of Scotland. The display speculated whether this might be due to the species being overlooked because of its late flowering habit (early September).

Some interesting discoveries in West Ross. VC 105. Duncan Donald.

The display highlighted a few notable (re-)discoveries in West Ross this year including the Alpine Cotula, Moschatel, Narrow-leaved Helleborine and a number of other firsts for the county.

Lost and found in Easter Ross. VC 106. Barbara and Brian Ballinger

A good news/bad news report of new sites for Common Centaury, a sub-species of Autumn Gentian and Coralroot (good!) but the apparent loss of Purple Milk-vetch (bad!).

West Sutherland 2009. VC 108. Pat and Ian Evans

A report of surveys in under-worked tetrads that recorded Northern Rock-cress and Scottish Asphodel, a new site for Sea Club-rush, and the three tiny annuals, Allseed, Chaffweed and Sea Pearlwort.

Caithness plants. VC 109. Ken Butler

Specimens of Frog Rush, Marsh Stitchwort and Red Goosefoot, all first records for the VC, were displayed alongside several specimens of the hybrid *Alopecurus x brachystylus* whose variation suggested multiple creations or backcrossing within a 10 m x 150 m area and no sign of either parent in the immediate locality.

Ferns, courses and fumitories. Heather McHaffie

A combined display with information on the British Pteridological Society and their interest in recording and/or growing ferns, the wide range of courses on botanical topics and related areas run by the Royal Botanic Garden Edinburgh, and a report on the apparent under-recording of Martin's Ramping-fumitory with specimens and line drawings describing the key identification features.

Specimen Identification Helpdesk

This stand was busy as always with helpful suggestions on the identification of a wide range of unidentified specimens.

Stands with information on courses, excursions and publicity material displayed were provided by several societies and NGO's, as follows:

BSBI. Jim McIntosh. Information leaflets, field meetings and membership forms.

SNH. Robin Payne. Information leaflets, larger publications, posters and postcards on a range of interesting projects taking place on NTS properties.

BSS. Promotional material with emphasis on the Society's 3-day international conference on Phenology in April 2010.

Summerfield Books again contributed to the exhibition with a wide range of botanical publications (both new and second-hand) and an assortment of hand lenses on display. They were located downstairs from the main displays and conference room but were always busy, most delegates leaving having made at least one purchase.

Once again Jim McIntosh and all the helpers are to be congratulated on arranging such a smooth-running and successful event.

Barbra Harvie, Hon. General Secretary, BSS

THESAURUS BOTANICUS

Though botanists are seldom cross
They never need be at a loss
For words that they might want to use
To those whom they wish to abuse.
Botanical vocabulary
Can sound really, really scary.

For instance, let us now suppose
A camper strays where twinflower grows.
In that case what can we say
To make the fellow go away?
“Beware the fierce *Taraxacum*”,
A threat that’s sure to strike him dumb.

Or to an infant running wild,
“Desist, obdiplostemonous child!”
(An oath that’s really very mild).

Or to a student whose degree
Includes no hint of botany,
But whose jokes are even worse
Than this truly dreadful verse.
“I think your humour’s tricolpate.
I must be off. It’s getting late.”

So there’s a use, you must agree,
In studying some botany.

Notes

Taraxacum: Dandelion. Obdiplostemonous: Of flowers, having the stamens in two whorls, the outer whorl opposite the petals, the inner whorl opposite the sepals. Tricolpate: Of pollen, having three pores (as opposed to monocolpate, having one pore; the distinction marks a major division in angiosperm taxonomy, arguably more fundamental than the distinction between monocots. and dicots.).

Roger West, Edinburgh

EVENTS & COURSES, 2010

For BSS events see Society News (pp. 9 & 10).

Selected spring/summer events at RBGE

Now that the John Hope Gateway building is in use the number of RBGE events has increased. Only a small selection is included in the following list. For the full programme pick up the booklet from RBGE or view it online (www.rbge.org.uk).

The 'Caley' Spring Flower Show

27th & 28th March, 11.00 a.m. – 5.00 p.m., Fletcher Building (formerly the Exhibition Hall, behind the Glass Houses).

Edinburgh International Science Festival

3rd – 18th April, John Hope Gateway. Celebrating biodiversity with a full

programme of drop-in scientific and artistic events and a self-guided trail. Special programme booklet available from

RBGE.

Lectures

16th March, 7.30 p.m., Lecture Theatre (adults £5, members £3; book on

0131-552 5339). *The Phoenix Tree*, by Dr. Max Coleman.

18th March, 7.30 p.m., Visitor Centre (adults £5, members £3; book on

0131-552 5339). *Scottish Plant Hunters*, by Alan Bennell.

9th April, 5.00 – 6.15 p.m. & 7.00 – 8.15 p.m., Lecture Theatre, free.

Two lectures, *Phenology: Monitoring* and *Phenology: Effects of*

Climate Change. The Science Festival, the BSS Conference and the

International Year of Biodiversity coincide.

Exhibitions (free of charge)

Until 21st March, John Hope Gateway, ground floor. *The Wych Elm Project*.

Until 30th March, Gateway Gallery. *Phylogeny*, by Hamer Dodds.

1st – 31st March, Library Foyer. *Spring Bouquet*.

1st April – 27th May, Library Foyer. *Green to Red* (Scotland's biodiversity).

3rd April – 3rd May, John Hope Gateway. Exhibitions on the ground and

first floors celebrating the Science Festival and the International

Year of Biodiversity, 2010.

15th May - 4th July, Gallery 2, Inverleith House. *Forests and Gardens of*

South India. Botanical watercolours by Indian artists.

15th May – 18th July, John Hope Gateway, ground floor. *On the edge of*

the World. Presenting South America.

22nd May – 18th July, John Hope Gateway, first floor. *Plants from the*

Woods and Forests of Chile. Book illustrations by three Turkish

artists.

8th – 24th June, Fletcher Building. *Botanical Images Scotia (BISCOT)*.

Contemporary botanical paintings.

12th June, 2.00 – 2.45 p.m., Inverleith House. *Curator's Tour*. Tour of the

Forests and Gardens of South India exhibition by the Curator, Henry Noltie.

Drop-in events (free of charge)

14th March, 17th April, 22nd April, 16th May, etc., 10.00 a.m. – 12.00 noon,

Real Life Science Studio, John Hope Gateway. *Remembered Remedies*. Ethnomedica will be collecting your stories of plants

used as simple medical remedies in your family.

20th & 21st March, 11.00 a.m. – 4.00 p.m., Real Life Science Studio, John

Hope Gateway. *Biodiversity in Edinburgh*. An event for the International Year of Biodiversity, 2010.

5th May & subsequent Wednesdays, 1.00 – 2.00 p.m., Real Life Science

Studio, John Hope Gateway. *Behind the Scenes at the Botanics*.

With Garden Staff.

Special Event (free of charge)

21st June, 7.00 – 11.00 p.m., Garden and Gateway.

Midsummer Evening at the Botanics. Enjoy the Gateway until 9.00 p.m. and the Garden until 11.00 p.m.

Guided Walks

1st April – 31st October daily, 11.00 a.m. – 12.00 noon & 2.00 – 3.00 p.m.,

from the John Hope Gateway (£3). Tour with a Garden Guide.

4th May, 12.00 noon – 1.30 p.m., from the John Hope Gateway (£4, bookable on 0131-248 2937). *John Hope's Legacy.*

22nd May, 2.00 – 3.30 p.m., from the John Hope Gateway (£4, bookable

on 0131-248 2937). *Botanics Biodiversity Walk*, with Cathy Bell,

Garden Guide, on the International Day of Biological Diversity.

Selected events at Benmore, Dawyck & Logan

Garden admission fees apply.

16th – 18th March, 10.30 – 11.45 a.m. Logan Discovery Centre (£5).
The

first Signs of Spring. Guided tour.

23rd March – 31st October, 2.00 p.m., Tues., Wed., Thurs. & Sun., from the admissions area, Benmore. Tour with a Garden Guide.

25th March, 2.00 p.m., Courtyard Gallery, Benmore. *Pteridomania – The*

Renaissance. Mr. David Mitchell talks about the exhibition.

Until 25th April, Studio at Dawyck. *Colour Fields.* Paintings by John Nelson.

13th April, 2.30 – 3.30 p.m., Logan Discovery Centre (£5).
Gardening the

Earth. Talk by Professor Steven Blackmore, Regius Keeper, RBGE.

24th April – 25th July, exhibition in the Courtyard Gallery, Benmore.
With

the Grain – the return of Tim Stead.

2nd May – 1st August, Studio at Dawyck. *In Detail: Plants and Flowers*

Close Up, by Kenneth Gray.

8th June, 10.30 a.m. – 12.00 noon, Logan Discovery Centre (£5).
Early

Summer Highlights. Guided tour with the Curator.

30th June, 2.00 – 4.00 p.m., Dawyck (book on 01721-760254).
Native

Scottish Flora. Guided walk with Phil Lusby.

Courses at RBGE

Those marked * are eligible for ILA grants. People earning £22,000 a year or less can apply for grants to help cover costs of up to £200 for these courses (see web link http://www.ilascotland.org.uk/ILA_Homepage.htm). Many specialist and natural history societies also help with the costs of courses.

Eight day evening courses *

27th January – 24th March: *Beginning Botany* (£70).

21st April – 30th June: *More Beginning Botany* (£80).

22nd April – 1st July: *Recognising Plant Families* (£80).

One day courses

20th February: *Winter Tree Identification* (£45).

28th February: *Moss Identification – Level 2* (£45).

14th March: *Lichen Identification* (£45).

19th June: *Fern Identification* (£45).

26th June: *Wildflower Identification* (£45).

Eight day Certificate of Practical Field Botany *

Thursdays, May – June, Edinburgh (£450).

Saturdays, May – June, East Kilbride, Killochside (£450).

Residential Week Certificate of Practical Field Botany *

17th – 24th July, based at Eigg Glebe Barn Outdoor Centre (£530).

For more information see the RBGE website as follows:

<http://www.rbge.org.uk/education/professional-courses>

Courses at Kindrogan Field Centre, 2010

Botanical courses, suitable for beginners (B), improvers (I) or everyone (O), are listed in the table below. For further details and prices, please contact the Field Studies Council, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG. Tel.: 01250-870150; fax: 01250-881433; e-mail: enquiries.kd@field-studies-council.org

Dates		Course Titles	Tutors
5 th -12 th April	I	<i>Lichen Identification</i>	Rebecca Yahr
19 th -23 rd April	O	<i>Sphagnum</i>	Martha Newton
23 rd -30 th April	O	<i>Mosses and Liverworts</i>	Martha Newton
7 th -10 th May	I	<i>Identifying Bryophytes for Conservation and Recording</i>	Nick Hodgetts
14 th -17 th May	B	<i>Big Tree Country: Introduction to Tree Identification</i>	Jerry Dicker
14 th -17 th May	I	<i>NVC: Woodlands</i>	Ben Averis
17 th -21 st May	I	<i>Big Tree Country: Tree Identification for Improvers</i>	Jerry Dicker
4 th -11 th June	I	<i>Freshwater Algae</i>	Elliott Shubert, Eileen Cox and Laurence Carvalho
18 th -22 nd June	O	<i>Wild Orchids of Scotland</i>	Martin Robinson
18 th -25 th June	O	<i>Identification of Highland Plants</i>	Bob Callow
18 th -25 th June	O	<i>Grass Identification</i>	Judith Allinson
22 nd -26 th June	O	<i>Discovering and Identifying Wild Flowers</i>	Martin Robinson
25 th June-2 nd July	O	<i>Plant Communities of the Scottish Highlands</i>	Bob Callow
25 th June-2 nd July	I	<i>Aquatic Plants</i>	Nick Stewart
28 th June-1 st July	O	<i>Mountain Flowers</i>	Heather McHaffie
2 nd -5 th July	I	<i>Fern Identification</i>	Heather McHaffie
16 th -19 th July	O	<i>Introduction to NVC</i>	Martin Robinson
2 nd -7 th Aug.	I	<i>Identifying Sedges and Rushes</i>	Fred Rumsey
13 th -16 th Aug.	I	<i>NVC: Heathlands</i>	Ben Averis
10 th -17 th Sept.	I	<i>Identifying Fungi</i>	Liz Holden

BOOK REVIEWS

***The Vegetative Key to the British Flora*, by John Poland & Eric J. Clement (2009).** Published privately with the Botanical Society of the British Isles. Printer, Hobbs, Brunel Road, Hampshire. 526pp., incl. 32 colour plates, each with about 9 – 15 images per page. Price: £21.75 (paperback).
ISBN: 978-0-9560144-0-5

Users of this book now have the tool to identify almost 3,000 native naturalised or casual higher plant from vegetative material. Up until now botanists had thought that only specimens in flower or fruit would be suitable for keying out in floras. This led to much frustration as some plants are shy to flower or may not be flowering when collected and so may not key out satisfactorily. Now, with this innovative key with few exceptions (mainly brambles, hawkweeds and dandelions, hybrids and infraspecific taxa) most plants found in Britain can be keyed out without flowering or fruiting material. This is unique! The whole of Britain and Ireland, is covered and the nomenclature follows Stace (1997) except where an occasional update is better, e.g. *Carex leporina* now replaces *C. ovalis* as in the recent B.S.B.I. Sedge Handbook (2007). All the keys have been written afresh so as not to perpetuate errors of the past floras. My previous 'bible' for plant naming had been either 'Stace' or the *Plant Crib* (1998) but now this work will largely supplant them. The use of a modular approach allows for easier scanning and is user-friendly, allowing experienced users to enter keys at will. The usual constraints apply when selecting material to name: choose typical first year shoots, avoiding suckers or vigorous growths and additionally select basal or lower leaves and watch out for odd shade forms. I made a mistake in the field when checking out details of *Campanula lactiflora*. The key said that the leaves were only up to 2.5 cm wide and the plant I was looking at had leaves 5 cm wide. However, the instructions at the beginning of the book tell you that it is the lower or basal leaves that need to be examined. Much new information is given such as anatomical features such as vascular bundles in T/S stems or leaves and the presence /absence of stomata. I have to confess that this latter feature has escaped me so far. Rarely there is no alternative to using floral/fruiting characters and ecologists should note that the identification of seedlings is usually not

an option as at least one mature leaf is necessary. The sedges and grasses, not the beginner's favourite, are given special attention with lots of colour plates of T/S leaves for the sedges and line drawings of ligules and T/S stems for the grasses. Species that are asterisked are illustrated, along with the different types of leaf lobing, shape, bases and the various toothings on leaf edges. A glossary and summaries of important characters are also given. I was pleasantly surprised to find that it was even possible to name the many *Cotoneasters* but I still needed to check leaf outline in Stace (1997). Stace or the *Plant Crib* are still necessary for some taxa such as the widespread oak, hybrid *Quercus x rosacea*, or *Erophila* but others such as *Euphorbia x pseudovirgata* key out satisfactorily. I was not aware of any willow specialist being mentioned in the acknowledgements and this may have accounted for an omission in a willow module where both varieties of *Salix caprea* were keyed out but the subspecies of *S. cinerea* were not. Of course it is the rusty-haired version, *S. cinerea* subsp. *oleifolia* that is much more common. Testing out the rush key I was pleased to see that the non-flowering *Juncus acutiflorus* could be differentiated from *J. articulatus* by the number of septa per 5 cm of stem. Beginners often confuse them even when in flower. Some of the willowherbs are more reliably identified when in fruit and the pair that I find most often confused are the Square-stalked Willowherb, *E. tetragonum* (very rare in Scotland) and the Short-fruited Willowherb, *E. obscurum* (frequent). The problem is that the tiny glands on the calyx or fruit of *E. obscurum* can be almost impossible to see, leading to a faulty identification. However, the vegetative key uses other relatively obvious characters, e.g. the 2 mm thick square stem and narrow leaves (<1 cm) of *E. tetragonum* compared with the rounded, 4–6 mm stem, and leaves 1.2–2.8 cm wide, of *E. obscurum*. No doubt there will be a few omissions but the only ones that I noticed were the Rusty Willow, mentioned previously, and *Zostera* missing from the index, which is fairly comprehensive giving common as well as scientific names. The paper quality is good and the type is very clear and easy to read. I have to say I was overjoyed to try out this wonderful new approach to plant identification and I can thoroughly recommend it to anyone.

References

Jermy, A.C., Simpsons, D.A., Foley, M.J.Y. and Porter, M.S. (2007) *Sedges of the*

British Isles. BSBI Handbook No. 1, 3rd edition. Botanical Society of the

British Isles. London.

Rich, T.C.G. and Jermy, A.C. (1998) *Plant Crib*. 2nd edition. Botanical Society of

the British Isles, London.

Stace, C.A. (1997) *New Flora of the British Isles*. 2nd edition. Cambridge University Press, Cambridge, England.

Douglas McKean, Edinburgh

***Fumitories of Britain and Ireland*, by R. J. Murphy (2009).**

BSBI Handbook No.12. Published by the Botanical Society of the British Isles, London. 121 pages. Price: £12.50.

ISBN 13: 978-0-901158-40-6

When I first started to look at fumitories this is just the book I would have liked to have. Fumitories, as many people have discovered, are not a very easy group, with considerable variation within species. Many floras have indistinct pictures and it is difficult to show the variations in the brief treatment that a general book can provide. At the beginning of the book there is a section on the important characters for identification. This is detailed and clear with the combination of line drawings and photographs that is so effectively used throughout the book. There is a lot of detail that could be overwhelming at first but at least most of the information people might want is given and is there for future reference.

There are two sets of keys, a simpler one with some subspecies and one that goes down to subspecies and varieties. There are quite a lot of technical terms used but these will only become familiar with use, and they have all been explained and illustrated in the earlier section. The keys seem to work although Scottish readers have to work past the species that are not likely to occur here, but at least we can be prepared and only one out of the ten species has never been recorded in Scotland. The species descriptions have line drawings of a whole shoot, of individual flowers, sepals (showing variation), fresh and dried fruits. These drawings alone are more comprehensive than anything previously available. In addition, there are close-up photographs of all the same structures with scale bars together with photographs of a

flowering raceme, a fruiting raceme, dried fruits and several habitat shots. Only the latter photographs are sometimes a little disappointing. There are distribution maps for each species. Additional information is given for comparison between two similar species. This means that there is a departure from the standard format when necessary. *Fumaria purpurea* and *F. capreolata* are the most similar and are very usefully illustrated side by side. With *Fumaria reuteri*, e.g. one of the confirmatory characters is the shape of the stigma and variations in the stigma are shown for that species. As other species do have structures that are similar, but subtly different, this is additional information that could have been usefully included for all the species. In the main this book is very comprehensive and will be a valued addition to everyone's identification guides. I hope people will be inspired and enabled to make more records of this fascinating group in the future.

Heather McHaffie,
Royal Botanic Garden Edinburgh.

***The Carrifran Wildwood Story: Ecological restoration from the grass roots*, by Myrtle and Philip Ashmole, with members of the Wildwood Group (2009).** Published by Borders Forest Trust, Jedburgh. 224 pages. Price: £15 (Gift Aid price: £25) plus £5 postage. ISBN: 978-0-9534346-4-0

Many of you who are reading this review will be familiar with the Carrifran Wildwood Project and may have contributed in some way towards its existence. *The Carrifran Wildwood Story* is a celebration of the first tentative steps towards a long-term vision: "The bringing back of natural vegetation to an entire valley in southern Scotland: to restore the kind of wild forest that would have existed 6,000 years ago."

This book is a celebration of 10 years of Carrifran and in the foreword Professor Aubrey Manning reiterates one of his earliest observations on the project: "it will be an inspiration".

The text is clear and easy to read and leads the reader through an informative and inspirational 12 chapters on Carrifran and the Carrifran Wildwood Project. The story begins with the initial "Idea of ecological restoration", the rationale behind the plan to recreate a self-sustaining forest on a landscape denuded by centuries of human activity, and ends

with “Watching changes”, a positive and up-beat finale reporting the sometimes astounding changes that the project has brought to Carrifran, including some paired before-and-after photographs and the highlights from a series of wildlife surveys (plants, birds and invertebrates). The chapters in between lead the reader from the first presentation of a idea, by Philip Ashmole in 1993, through the many stages of developing that idea, convincing others of its potential, the formation of the Borders Forest Trust (in 1995) and ultimately to the Wildwood Group. The early chapters relate the frustrating process of searching for a site, publicising the dream and fund-raising to purchase the land; ultimately achieved in November 1999, 10 years ago. The prose of the main text continues to flow effortlessly throughout the remaining chapters and the history of the site, planning and implementation of the project, the implications of finding the ‘Longbottom Bow’ and the incredible feats of the volunteers follow in rapid succession with occasional sections in a different writing style, reflecting a change of author.

The core text is interspersed with blue text boxes containing additional snippets of related information on Carrifran past and present including: quotations from Aldo Leopold, fungi at Carrifran by Roy Watling, comments from volunteers, records of the covenanters, poetry from Walter Scott and Philip Ashmole, the Williams Cleuch pines. Photographs of stunning quality and variety appear on almost every page adding to the delight of reading a chapter or browsing through the pages. Watercolours, cartoons and original drawings are recreated and there is even some original music. All of these contribute to the Carrifran Wildwood story.

The Carrifran Wildwood Story is much more than a description of the Carrifran Wildwood Project; it is a journey through time, both backwards and forwards, although it never loses touch with the present. The text is a glorious combination of prose, poetry and pictures. The book is a joy to browse or read and I can thoroughly recommend it as an addition to your library or as a gift.

Additional information:

- *The Carrifran Wildwood Story* was shortlisted for the prestigious Robin Jenkins Literary Award, 2008/9.
- *The Carrifran Wildwood Story* is available from Borders Forest Trust and can be ordered online from www.bordersforesttrust.org

or by post from Borders Forest Trust, FREEPOST SCO 2459, Jedburgh, TD8 0BR.

- The Carrifran Wildwood website is at: www.carrifran.org.uk

Barbra Harvie,
University of Edinburgh.



CROSSWORD SOLUTION AND CRIB



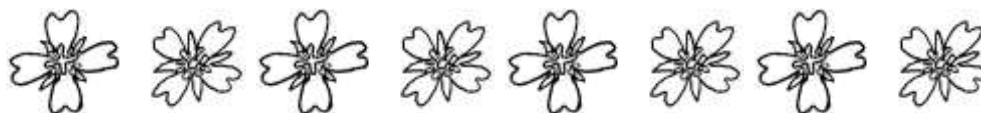
Across:

1. double definition
4. (ET)CETERA/CH(A) - rustyback
8. CORNEL(L)
9. reversed in ChristMAS LABour
10. ChristmaS PUDding
11. XY/LO/CARP
13. anag. HOPE THEIR DRAM
16. anag. EG MIX NUT – hybrid of wood and water avens
19. GR/ID
20. SAG<IN>A
22. female form of *sativus* = cultivated
23. anag. IN CRETE TEA
24. LI/L(OVEL)Y

Down:

2. echoes fear
3. KING/DOM
4. K licks
6. double meaning
7. Cheers Home Arrival
12. anag. LIVER RATE
14. PL<IC>ATE
15. DI<GI/T>AL
17. May's
18. TEST/A
21. 'alt' on computer keyboard is modifier





Back cover pictures

Inside:

top left: Die Flora, the botanical garden at Cologne, Germany. In 2009 this

garden was the site of an exhibition of botanical researches entitled: *Darwins Garten*. (Photo: H. J. Fletcher)

The following photographs are all by Chris Jeffree.

top right: Dr. Philip Smith, past President of the BSS and Botany Field Course

Organiser from 1981 until his death in January, 2004, giving a

tutorial in the field on the use of a plant identification key.

centre left: Quadrating, Glen of Clab, Burren, Ireland.

bottom left: Bee Orchid (*Ophrys apifera*) on the village green, Inis Oirr, Aran

Islands, County Clare, Ireland.

bottom right: Moonwort (*Botrychium lunaria*) on the foredune at Invernaver,

Sutherland.

Outside: Photographs by Chris Jeffree.

top left: Canary endemic Umbellifer, *Ferula linkii*, growing in the Cañadas

del Teide at Fortaleza at 2100 metres, with Pico Del Teide in the

background, Tenerife.

top right: *Echium wildpretii* (Boraginaceae), a Canary endemic subalpine

bugloss, in the Cañadas del Teide at el Portillo, Tenerife.

2nd from top, left: *Monanthes polyphylla* (Crassulaceae), a mat-forming xerophyte that grows on volcanic rocks in northern Tenerife, here photographed near Teno Point.

3rd from top, left: Latticed Stinkhorn (*Clathrus ruber*) in macchia vegetation

near Camerota Bay, Campania, Italy.

bottom left: A student group in Sella del Corticato, Cilento, Southern Italy,

receive instruction in vegetation sampling techniques from Annalisa Santangelo, University of Naples.

bottom right: Canary Bellflower (*Canarina canariensis*), a Canary Island endemic, is bird-pollinated and grows on the laurel forest floor, Tenerife.