Parnassia

The Newsletter of the Liverpool Botanical Society

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Autumn 1999

Editorial

As the season draws to a close and the flowers are starting to look a little shabby I suspect that there are quite a few botanists out there who are also feeling rather torn and tattered after the exertions of the final recording season for Atlas 2000. I know I am! So, I suggest you stop counting Polypody annulus cells, stop worrying about whether the lower lip of your *Galeopsis* petal is very slightly emarginate or clearly emarginate and put the fire on, make yourself a cup of cocoa, and cuddle up with the Autumn edition of *Parnassia*.

It is a worrying time for us here at *Parnassia* H.Q. as Donna Young, long term stalwart of the editorial team, has left to have twins. This has left us feeling rather adrift and a tad insecure. Nevertheless we are soldiering on and would like to say a big thank you to Donna for all her tireless hard work and efficiency. We would like to wish her the best of luck with her new family. We're hoping that the twins first words will be "*Schoenoplectus tabernaemontani*" but we won't be too disappointed if it's only "*Ranunculus repens*"!

Finally we would like to thank everyone who has contributed an article, letter or poem to the Autumn edition. Thanks also to anyone who has offered encouraging words during field meetings. It really is great to get positive feedback and, once again, we would like to encourage everyone to send in articles, etc. for the next edition.

Leander Wolstenholme

Liverpool Museum News

Firstly, may I introduce myself, Judith Riley, your new LBS contact at the Museum. I joined the staff as a Botany Demonstrator in the Natural history Centre in early August and have been busy since then meeting new colleagues, familiarising myself with the wonderful collections, and meeting the public in the Centre in the afternoons.

I come to museum work from a career in education, most recently teaching at Liverpool College, where I had responsibility for environmental projects in the Junior School. My life-long hobby-interest is the natural world. I am a very keen and widely travelled bird-watcher, and an active field naturalist (I hesitate to say "botanist", but I love plants and am very interested in their ecology.). My husband and I share this love of the environment, and I know I shall be calling on his expertise (particularly with the Umbelliferae) on many occasions. I look forward to meeting you at future LBS meetings and field excursions, and welcoming you to the Natural History Centre.

As many of you will know, the next 18 months will be a period of great change at the Museum. Just as I am beginning to find my way around the herbaria, I have also been involved in packing items up for the "big move"! During the re-development work in William Brown Street, the Botany collections are to be re-housed in a warehouse in Bootle. The LBS library will be packed up and taken there too, and unfortunately will therefore not be available to members for about a year. However, the good news is that, with the exception of the short peri-

od from 19th September to 11th October, the Natural History Centre will be open throughout all the alterations, and myself and other demonstrators will be on hand to answer any queries. We have a good collection of reference books in the Centre which you are welcome to refer to whilst the library is out of commission.

NMGM 2001 is a very exciting development which will see our wonderful building extended, and the Upper and Lower Horseshoe galleries re-opened to the public for the first time since the wartime damage in 1941. Everyone at the Museum is very excited about the new potential it brings.

During the building programme, it will unfortunately not be possible for the Museum to accommodate the LBS for their Winter programme. Please note, therefore, that indoor meetings will now be held at the Annexe on the 1st floor at the Bluecoat Chambers. The dates of the meetings remain the same as in the programme i.e.

12th Oct.
Holiday Exhibits.

9th Nov.
Our Green and Pleasant Land?

14th Dec.
A Botanical Christmas Quiz!

11th Jan.
Annual General Meeting.

We apologise for this alteration to the programme, and hope that it will not cause too much inconvenience.

Judith Riley

News from Ness Gardens

The Gardens hit the national headlines in May this year, thanks to the flowering of our plant of *Puya alpestris* in the arid glasshouse. *Puya alpestris* is a high altitude bromeliad from South America and its spectacular and showy flower spike grabbed the attention of the media and the horticultural world alike.

From a rosette of narrow, sharply toothed leaves, typical of the family, an erect 2m high flowering stem emerged. Atop this stem, the flowering panicle opened to display bell shaped flowers of a most unusual electric blue colour which were in sharp contrast to the bright orange anthers held within.

Puya alpestris

The plant at Ness had been raised from seed, sown about 10 years ago and after flowering the individual rosette, from which the flower stem emerged, will die. Fortunately there are further basal

rosettes, from which the plant will continue to grow.

An interesting evolutionary feature of *P. alpestris* can be seen in the structure of the flower panicle. From the main stem a long flower spike is produced, but only the lower portion of this spike is clothed with the unusual looking flowers. The outer length of the spike provides a perch for pollinating humming birds.

A much more subtle flowering occurred in mid-summer which, although not attracting the fervour and publicity of the *Puya*, was in some ways just as exhilarating a spectacle. On recently disturbed ground at the base of a new fence, a tiny blue flower was spotted bathing its delicate face in the warm morning sunshine. Closer inspection revealed it to be the blue flowered form of Scarlet Pimpernel, *Anagallis arvensis* ssp. *arvensis*, which, although not as rare as Blue Pimpernel, *Anagallis arvensis* ssp. *foemina*, is nevertheless unusual and not commonly seen.

Elsewhere at Ness, the Global Warming experiment has now been running for one year. This is an experiment looking at the effects of global warming upon a shallow freshwater ecosystem.

Some very interesting plant architectures are developing within the experimental ponds, with a wide variety of different architectures appearing to develop across the various treatment groups. There does not appear to be any particular "climax" vegetative state to which these ponds are moving, rather a series of different possible states which are distributed in an almost chaotic fashion.

Of the plants that were initially introduced, Water Starwort, *Callitriche stagnalis* died out almost immediately in all ponds. It relies on molecular carbon dioxide as its carbon source. The pH in the ponds has been continually high causing the availability of molecular carbon dioxide to be much reduced. This together with the deep water in the ponds (1m) meant that *Callitriche* did not stand much chance of establishment.

In high pH conditions certain water plants can utilise bicarbonate as a source of carbon instead of molecular carbon dioxide. Curly Waterweed, *Lagarosiphon major* and Nuttall's Waterweed, *Elodea nuttallii* are two such plants and both of these species were introduced into the ponds. *Elodea nuttallii* grew vigorously during the summer, but is now dying back, whereas *Lagarosiphon major* is trundling along at a steadier pace, not showing a great seasonal effect. As *L. major* does not die back in winter, but carries on slowly growing, we think that we will have a real Tortoise and the Hare situation here with the inexorable march of *L. major* possibly allowing it to outcompete *E. nuttallii* over time.

The fourth plant that we introduced was Broad-leaved Pondweed, *Potamogeton natans*. This survives in about half of the ponds into which it was introduced. Where the plant has died out, it is not due to any experimental effect as it has disappeared evenly across all treatments. We think it is just a case of difficulty in establishment, possibly due to the small amount of rhizome that each plant started out with. *P. natans* relies on the energy store in its rhizome to produce fresh floating leaves in the spring. Once these leaves reach the surface they are able to photosynthesise using atmospheric car-

bon dioxide. Our plants were slow getting their floating leaves to the surface. This problem was exacerbated by the sudden summer explosion of growth of filamentous algae. This tends to climb the ascending shoot of *P. natans* smothering it and shutting off its light source.

Broad-leaved Pondweed, *Potamogeton natans*

With all these different factors, it can be seen that the development of the ecosystem is complex and varied, but whatever the outcome of the development of climax vegetative structure, we can be sure that the plants are forming a major component of the ecosystem.

Keith Hatton

Indoor Meeting Reports

Fungi Video Evening
13th October 1998

A 90 minute video was shown about fungi. It started with fungi expert Peter Jordan giving rules about collection with aspects of conservation in mind. This was followed with a list of the equipment required for collecting which included a basket rather than plastic bags, a knife and suitable clothing.

Species were introduced in their seasons. Spring was depicted with photos of Cowslip meadows and banks of Primroses before a search for St. George's mushroom which grows mainly on old calcareous meadows. Morels were among others shown and recipes were given for these species.

Views of the countryside in summer were followed by the Giant Puff Ball, both fresh and over ripe and full of millions of brown spores. Then more recipes using the puffballs when pure white and fresh. Fairy ring fungi called Champignons in the video are also edible. Shaggy caps with their deliquescent caps, once used as ink, could be eaten when fresh but the related Ink Cap is dangerous if alcohol is included in the meal. The yellow staining mushroom came with a warning that it might cause some people ill effects.

The late summer and autumn followed when woodlands were searched for Chanterelles and the differences were shown between it and the False Chanterelle of pine woods. Dangerous species included the Death Cap with the distinguishing cup-like volva at the base

of stem and the pink woolly *Lactarius torminosus*. The Fly Agaric with a red cap adorned with the white fragments of the ring volva was then seen and we were told that it causes hallucinations and other discomforts. A few other species of *Amanita* followed and warnings were given as to which were poisonous in different ways.

Harmless *Boletus* species included *Boletus badius* and the so called Penny Bun, *Boletus edulis* but again warnings were given especially about those which turned deep blue on bruising or those with red pores. *Sparassis crispa* has to be well washed to clear it of creatures hiding in its cauliflower appearance.

Views of autumn and winter were followed with the edible Honey Fungus growing on trees which it can, in time, kill. It also grows on dead wood as does the common Sulphur Tuft which was not recommended to eat. Wood and Meadow Blewitts are among many edible species that some people are allergic to.

Oyster Fungus, a bracket fungus, can be found on logs and the dark red Beef Steak Fungus usually grows on oaks while Jews Ear is plentiful on Elder. These are edible and easy to identify. Many difficult species of mushrooms were shown and described.

Recipes were interspersed throughout. Close up photos followed of 50 species with details of identification. A final warning was given never to eat doubtful ones.

Vera Gordon

Holiday Exhibits Meeting
10th November 1998

This meeting was devoted to members exhibits. Miss Gordon showed a flowering specimen of *Kleunia cuneifolia*, a succulent plant formerly in the genus *Senecio*. Also on one sheet pressed snippets of the 3 British *Ulex* species were shown to illustrate their distinctive characters.

Gorse, *Ulex europaeus*

Tom Smale showed slides of plants, people and views taken at field meetings. Members enjoyed guessing where they were taken.

Leander Wolstenholme's slides illustrated a botanical holiday in Crete, some taken by a friend, Jeremy Early, and the rest by himself. They illustrated many of the rarer plants he saw including the Cretan Wall Lettuce, *Petromarula pinnata*, the white, spring flowering *Cyclamen creticum* and the stunning large white flowers of *Paeonia clusii*. Other slides

shown included the rather odd, flask shaped flowers of the Cretan Birthwort, *Aristolochia cretica* and the Cretan Date Palm, *Phoenix theophrasti*, one of only two palms native to Europe, the other being *Chamaerops humilis*. Miss Gordon also showed slides of plants and people on field meetings.

Peter Gateley's slides were taken in many places. Some on holiday in Breadalbane where, on Ben Lawers and Meadl nan Tasmachan, some areas have been enclosed by electric fencing. Now protected from sheep grazing natural vegetation has quickly grown in these areas.

Saxifraga oppositifolia was also show on Ingleborough, Limestone Polypody fern in limestone clints on Hutton Roof and spring flowers at Erddig near Wrexham where some of our meetings have been held.

Vera Gordon

Recording in South Lancashire, Vice-County 59

8th December 1998

Miss Jean Bentley showed a fruiting twig of the Strawberry Tree, *Arbutus unedo* which is growing at Upton, Wirral.

Peter Gateley, Botanical Recorder for VC 59 South Lancashire gave an account of the tetrad recording in the vice county for the Atlas 2000 proposed by the Botanical Society of the British Isles.

He explained that the records for Atlas 2000 were to be shown on maps by various symbols i.e. 10km x 10km squares. VC 59 has 41 hectads though some are shared by other vice counties and some are partly sea. In VC 59 we are recording in tetrads i.e. 2km x 2km and, with 25 tetrads in each hectad, there are roughly 630 tetrads each to be recorded in the computer. Recording started in 1995 and is ending at the end of August 1999 so that all records may be sent to Monkswood by November 1999.

Peter hopes that all records will be sent to him by the end of August. A daunting task is now having to add the status of each entry such as Alien, Established, Casual, Planted or Native.

Maps on the screen showed coverage of each hectad and each tetrad. Other maps showed the density of species so far recorded and other maps outlined areas needing work.

Slides followed illustrating difficulties of access away from roads, footpaths and other public places. More slides were of varied habitats with the typical and rare species in each.

Vera Gordon

Annual General Meeting

12th January 1999

The president Dr Angus Gunn was in the chair and 12 members were present. Apologies for absence were received from Mrs Lockwood, Dr John Edmondson, Peter Gateley and Mr Hatton.

Minutes of the last A. G. M. were read and confirmed. The Honorary Secretary's Annual Report summarising membership details, indoor and field meetings held during the year was presented. Its adoption was proposed and seconded.

The Honorary Treasurer, Mr Lockwood, presented the Balance Sheet for 1998. This was duly audited by Misses Bentley and Davis. Copies of the Balance Sheet and Summary of Accounts were handed out to all present and fully explained. The accumulated fund had risen from £3,338 at the end of 1997 to £3,722 at the end of 1998. The treasurer pointed out that his postage had increased by £12 because he had been chasing lapsed subscriptions. However, this had proved worthwhile as subscriptions had increased by £119. The 1998 costs of *Parnassia* had not been calculated and this would be added to the 1999 accounts. The adoption of the treasurers report was duly proposed and seconded.

The Librarian's report was presented by Claire Smith who had been co-opted as Librarian. She announced that a lot of work was needed cataloguing and requested possible help.

Mrs Donna Young gave the editors of *Parnassia* report and acknowledged the help of Leander Wolstenholme and Keith Hatton who have joined the editorial team and now half the production is done at Ness.

Election of officers followed: Dr Gunn agreed to continue as President because there had been no proposal for nomination or even a volunteer. The remaining officers were re-elected en bloc:

Vice Presidents:
Dr John Edmondson and Peter Gateley

Hon. Secretary:
Miss V. Gordon

Hon. Treasurer:
Mr D Lockwood

Hon. Librarian:
Miss C Smith

Hon. Editors:
Donna Young, Leander Wolstenholme and Keith Hatton

10 Council Members: Miss Bentley, Miss Davis, Mrs Gateley, Lockwood and Ranger, Messrs Greenwood, Richardson, Rothwell, Smale and Dr K. Watson.

The Hon. Secretary was requested to thank the Museum for their hospitality and, at the same time, to acknowledge receipt of their letter announcing changes at the Museum from 1st August 1999.

A discussion followed upon the role our society should take in opposing various proposals which would damage areas of conservation interest. The discussion would be continued at the next Council Meeting.

Many specimens were shown which included twigs of *Ulmus procera*, English Elm which had wide corky flanges. A North American flora noted the character of this species - an alien in America. A specimen of the Liquidamber tree, *Liquidamber styraciflua*, seen at Croxteth Hall on one of our field meetings, was also shown.

Miss Gordon showed slides taken in Uzbeckistan. Some of desert plants between Bakhara and Samarkand and some of Tulips, Iris, Crocus, Colchicums etc. from the southern end of the Tien Shan range.

Vera Gordon

Coral Island, A Scientific Farce
9th February 1999

Dr George Russell gave a talk on an adventure in the tropics. A slide showing Charles Darwin as a young man introduced the fact that he was the first scientist to study and describe atolls. Diagrams showed them to be egg shaped, with gaps in the retaining coral reef which enclosed a lagoon and island. Darwin calculated that atolls grew from the blunt end.

This was accepted until in the 1960's when sub-aqua diving gave a boost to marine biology and defence commitments east of Suez demanded more knowledge of the area. The atoll Aldabra was selected for study but this was opposed due to the possible disturbance of the giant tortoise population.

In 1971 the Ministry of Defence, the RAF and the Navy received funds for an Indian Ocean Scientific expedition to the Jaco Islands. The Atoll Egremont was chosen. It had been inhabited about 1887 when Coconut Palms were planted. The highest part of this atoll was only 1.5 metres above the high water mark. Slides showed palms with the camps erected on the site of the old village where it was hoped that freshwater would be found. However, only bad water rewarded well digging. Water tanks brought with the daily army rations had to be used as well as rain water. There were no ground nesting birds because of the many rats. Fish were caught occasionally and mosquitoes were a problem.

The 20 sailors in the party collected corals to sell on their return home but the scientists had some recording and collecting to do. There were ferns and epiphytes among the palms and mosses on rotting coconuts and some lichens. Among the higher plants on the beach was *Scaevola toccada* and further up the beach grew species of *Ipomoea*, *Baringtonias* with pink flowers, *Calophyllums* and *Casuarinias*.

Dr Russell was more concerned with the algae which, sadly, were very small due to being heavily grazed. Some were almost calcified.

The hulk of a wrecked ship was explored and the ship's bell taken as a trophy. A monument was built and inscribed and a service was held remembering those who must have perished. However, after the 10 weeks duty was over and they returned to Britain, the bell was handed over to the company owning the ship. They then learned that no lives had been lost at the time of the wreck!

Many questions were asked at the end of the talk and we heard that one of their worst fears was the possibility of a storm which could easily have washed over an island only 1.5 metres above high water mark.

Vera Gordon

Lichens of Cheshire and the Wirral (VC58)
9th March 1999

The earliest reference to lichens in the Cheshire area is probably that submitted by John Bradbury, and recorded in Dawson Turner and Lewis Dillwyn's, Botanist's Guide through England and

Wales, Vol 1. published in 1805. John Bradbury lived in Stalybridge and most of his records refer to observations he made in the late 18th century.

It was clear from these that the air must have been exceptionally clean in the north west as he recorded *Lobaria pulmonaria* (often in fruit), *L. scrobiculata*, *Degeliaplumbea* and *Lobaria virens* (often on the same trees). *Usnea articulata* grew on old oak trees in Lyme Park (in plenty). All these species have been long extinct in Cheshire.

One of the species that John Bradbury noted was *Lasallia pustulata* growing "in plenty" near "Biddestone lighthous". This appears to be a building that was built in the late 18th century and rebuilt in 1872-3, adjacent to the present Bidston Observatory, which was built in 1866. This area is the highest point in this part of the Wirral, and would presumably be subject to the moisture laden clouds arising from the sea, ideal conditions for the development of this species. However, it is also far enough inland to begin to feel the effects of any degradation of air quality resulting from the shipping and industrial development within the estuarine areas of the Mersey, around Birkenhead and Liverpool. In any case, the Liverpool herbarium does house some collections of the *Lasallia* from this site made by Joseph Dickinson who visited the site around 1850. The *Lasallia* was clearly growing well at this time but a collection from this site in 1915 by W. G. Travis clearly showed considerable pollution pressure and was barely recognisable. No examples of this lichen have been described or rediscovered from this site since and it has clearly become extinct. This example describes in a dramatic manner the decline of lichens over the years in this area of the north west, and during the later part of the nineteenth century and the beginning of the present century, the population of this taxon had declined to a very considerable low. The county as a whole was not only downwind of the heavily industrialised areas on the mouth of the Mersey, it would occasionally also suffer south easterly winds from polluting Staffordshire potteries as well as the Derbyshire lead smelters. Levels of sulphur dioxide exceeding winter averages of 2000 micrograms per cubic metre were regularly recorded before the early sixties, when the Smoke Abatement Laws took effect. This has since resulted in a steady decline of pollution from this source over the whole county.

Hypogymnia physodes

There has been a return of the more sensitive lichens into the county, most spectacularly on the *Salix fragilis* in Willow Carrs throughout the county, and the frequency of the colonisation of species in this habitus has led us to believe that the order of return is as follows; *Parmelia*

sulcata, P. subaurifera, Hyogymnia physodes, Evernia prunastri, Ramalina farinacea, Parmelia glabratula, Usnea spp., *Parmelia revoluta, Physcia aipolia,* and *Parmelia exasperata*. Almost certainly we shall see in the near future further species beginning to colonise this habitus as the levels of sulphur dioxide continue, hopefully, to decline. However, there is some disturbing evidence that some of these species, having recovered are beginning to decline again, possibly due to other atmospheric pollutants as yet unidentified. Agricultural sprays, diesel exhausts, lower temperature refuse burning or new chemical atmospheric pollutants are all suspected sources and a detailed continuing analysis of changes in lichen growth could be one of the real-time most sensitive ways of detecting these changes.

One of the reasons for the low total count of the list of lichens for the county (approx 240 spp., out of a total of over 1850 spp known in the UK), is the relative lack of diversity of natural substrates. There is virtually no limestone, and thus the known calcicolous species are all from artificial substrates of concrete, mortar and asbestos. Old trees have either been significantly culled or destroyed in the past, and the depredation of the industrial revolution has not yet been reversed on most of the older trees which survived. The most diverse areas are the moorland areas in the north east of the county, and the meadows which border Wales, along the Lower Wych near Malpas. Indeed, in this latter are the only known examples of *Graphis* spp. in VC 58 occurring together with several other species one would expect to see associated with the Graphideae. This area has probably maintained low levels of pollution throughout the Industrial revolution. It is thus logical to suppose this area may see the re-colonisation by the most sensitive species on their return in the near future. Where good sites occur, such as at Peckforton and Beeston moors, there are plenty of species normally associated with such areas (such as *Cladonia* and *Coelocaulon* spp.). The question arises therefore, can VC58 provide some special sites by virtue of its industrial heritage? Perhaps the relics of industry, scrapyards, waste sites, slag heaps, etc. when weathered provide fascinating new substrates for lichens. *Stereocaulon* species such as *S. vesuvianum*, and *S. nanodes*, similar to those that inhabit old lava fields in Lanzarote and Vesuvius love to grow on old slag from furnaces. Lead loving lichens (*Stereocaulon pileatum*) grow around the little lead wells used on old sandstone railway bridges to anchor the iron railings removed during the last war. *Peltigera canina* (as distinct from the much more common *P. membranaceum*) grows on many of the old salt workings around Northwich. What other treasures could be found in these kinds of sites? The iron sulphide rich sandstone walls around Lamaload yield plentiful quantities of *Lecanora solarifera* and *Lecanora epanora*. Nutrient enrichment from bird roosts and farmyards provide a characteristic population of Physciaceae, especially when the substrate is also alkaline from concrete, mortar or asbestos as well.

There are a number of species that were recorded by Travis in the early part of this century, which were recorded around 1915 and 1920, which have not or only rarely been seen in the habitats described at the time since. Examples are *Cetraria islandica* (seen once since in 1971) from

Thurstaston, *Cladonia arbuscula* (from the same site), *Lasallia pustulata* (from Bidston or Heswell), *Lempholemmas*, *Ochrolechia tartarea* from Eastham Woods, *Pyrenula* spp. (most likely to be near Lower Wych if anywhere), *Sphaerophorus fragilis* which does occur on a single boulder just over the Staffordshire border near the Roaches, and *Steinia geophana* which does grow just over the border in Derbyshire near the Erwood Reservoir.

With the decrease in sulphur dioxide pollution, and the varied nature of new industries, the changing status of lichens can provide a useful indicator of the health of the county, and the constant monitoring of this taxon should be encouraged.

Brian W.Fox

Obituary

Emeritus Professor Brian William Fox, FLS

Brian Fox was born in Ammanford, South Wales in 1929, and became a pupil at Ammanford Grammar School. In 1941 he moved to Lancashire with his family where he continued his education. He attended King's College, Durham University from 1947, where he read chemistry, and obtained his doctorate in 1954. His two years National Service were in the Army, based at Chester, after which he worked at the Christie Hospital and Holt Radium Institute in Manchester. After being recalled for service during the Suez Crisis, he returned to the Christie Hospital and began his career in cancer research. There he met Margaret Partington, who later became his wife and work colleague.

Brian's prestigious career in the Paterson Institute lasted nearly 40 years from 1956 to 1993. His achievements in cancer research were commended by the award of a chair from the University of Manchester in 1980 and by his appointment as Deputy Director of the Paterson Institute in 1984.

Brian had many varied interests outside his working life, including skiing and cycling. He was an accomplished pianist and organist and enjoyed the theatre. After the sad death of his wife, Margaret, in 1992 he developed a new ability – cooking! He was a talented artist and an active member of several art groups based in and around Manchester. He was a member of the Manchester Philosophical and Literary Society.

However, it was in Natural History, and the study of Lichens in particular, that Brian made his most significant contributions. His work on this subject was highly respected and he was President of the British Lichen Society in 1996 and 1997. He contributed records to many County Lichen Floras and was actively working on a Lichen flora of Cheshire. Brian was also engaged in a study of the Lichens of the igneous rocks and pocket deposits of Derbyshire and, as a member of the Manchester Geological Association, he was a keen and knowledgeable amateur geologist.

Brian was a founder member and President of the New Mills Natural History Society, and was a past president of the North Western Naturalists' Union.

He was a superb communicator and his enthusiasm for his subject was infectious. His readiness to lead study groups and meetings for many societies gained him the respect and friendship of all those who knew him. As president of the New Mills Natural History Society, he was always ready to operate the projector, look after the speaker or even make the tea. He was a member of the prestigious Linnaean Society with special responsibilities for the Jill Smythies prize (for published botanical art).

One of his first written contributions on Natural History was to Travis's Flora of South Lancashire, published by the Liverpool Botanical Society in 1963, and his paper on "The influence of Atmospheric Pollution on the Lichen Flora of Cheshire" was featured in early 1999 in "A History of the Mersey Basin."

Brian will be missed, particularly by his sister Mary Fox, but also by the many people who were touched by his enthusiasm during meetings and events. This was a full and active life, lived by a man whose modesty, generosity, energy and enthusiasm is an inspiration to us all.

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Savidge, J. P., Heywood, V. H., & Gordon, V. Eds. (1963) Travis's Flora of South Lancashire. Liverpool Botanical Society.

Greenwood, E. F., Ed. (1999) Ecology and Landscape Development: A History of the Mersey Basin. Liverpool University Press.

The above is partly based on the Eulogy by Dr. Nigel Pacey

Janice Hatton

Articles

Camellias

Next time you are sipping your cup of tea be reminded of the plants that have provided that essential ingredient, the tea leaf. You may not have been fortunate enough to see the foothill slopes of the Himalayas around Darjeeling, nor the tea plantations of China where acres of waist high *Camellias* are picked over regularly. The young leaves being tossed across the shoulders of the pickers into bamboo baskets and carried to the drying floors. You will, however, be familiar with another species of *Camellia* grown as an ornamental shrub and producing, in many cases, unbelievably symmetrical blooms of red, pink or white.

Camellia japonica and its scores of cultivars and selected varieties has been a plant cosseted by the Victorians, neglected by northern gardeners during the first half of this century and now admired and coveted by growers across the land. It has such an exotic appearance that one may be forgiven for imagining that it would not possibly survive in anything but the most sheltered and protected environment. This, perhaps, is why it was wheeled in and out of orangeries or planted against walls, why perhaps it was felt unsuitable for northern climes. Nothing could be further from the truth. Those of you who have been seduced by the genus will know, that if sheltered from cold winds and planted in situations

where frost is not thawed rapidly by direct sunlight, *Camellias* are hardy beyond belief and tolerant of dry, in fact, drought conditions.

Many plants this autumn are carrying structures that, at first appearance, resemble small, green and brown, shiny apples. These are the fruits, which in their native China and Japan will seed around in the woodland floor to ensure continuation of the species. In this country the ovaries will swell giving the impression of a good seed crop. Unfortunately the ovules do not become fertilised and do not develop into seeds. The embryo is unviable. Cut the fruit open and you will discover nothing more than a hollow shell with the little dark brown "pips" quite without substance.

Camellia japonica

This lack of seed development presents, on the face of it, a problem but vegetative propagation from what are known as leaf-bud cuttings will enable young plants to be produced. By selecting the ripening shoots that form this year's shoots extensions, short lengths of stem each with a leaf and an ancillary bud may be prepared. Ensure that the wood has ripened sufficiently to turn cinnamon in colour yet not so woody as to snap when carefully bent between your fingers. Cut immediately above a bud, leaving the single leaf in position, and make a second cut about 2cm below the leaf joint. The shoot may yield more than one such cutting.

Dip the lower cut end into a rooting powder and insert the prepared cuttings into a pot of moist cutting compost. Cover with glass and place in a propagating case where bottom heat will speed up rooting. Keep the tops cool if possible. Rooting should have taken place by late spring next year when they may be potted individually into compost suitable for ericaceous plants to grow in. Alternatively, the pots of cuttings may be stood outside in cold frames or at the base of a cool, north-facing wall. The absence of heat at the bottom of the cuttings will slow down the rooting process but by mid-summer young plants should be ready for handling.

Peter Cunnington

Seaweeds of the Wirral Coastal Defences

In 1830, an area of land at the northern tip of Wallasey was purchased for the construction of the town that came to be named New Brighton. It is clear that New Brighton was conceived as a rather upmarket resort and a prospectus issued at this time drew attention to the cleanliness of its beach. In the mid 19th century, the Mersey was visited by a number of seaweed botanists, among whom F. P. Marrat was possibly the most active, and

his species records for New Brighton tend to substantiate a picture of a fairly clean river. They also provide a valuable basis for comparison with the present-day flora of the estuary. By the end of the century, however, the volume of domestic and industrial effluent entering the river had reached serious proportions and Marrat reported rather glumly on the poor condition of the surviving species. His dismay would have been greater, perhaps, had he known that a century was to pass before anything much was done in the way of water quality improvement.

In 1931 work began on a promenade (King's Way) that slowly extended westward along the shore of the Wirral from New Brighton. It was built with a sea wall that dropped vertically onto the beach below. Vertical walls, though structurally simple, are unsatisfactory in design because they promote the formation of standing waves. These occur when a wave rebounds from a wall and collides with an incoming wave. Because their energy is directed downwards, standing waves scour sand from the bottom and suspended particles are then carried away by longshore drift. As a result, New Brighton began to lose its beach and by the 1970's, the foundations of the sea wall had become exposed. A remedy had to be found and an ambitious scheme for a series of artificial reefs was approved. These were built between 1981 and 1985 and they are a familiar sight to walkers along the Wirral coast. Two types of material were incorporated into the reef structure: interlocking concrete blocks of intricate design and limestone rocks approximately one metre in diameter. The same blocks and rocks were also used for revetment of the most endangered parts of the sea wall.

Sampling of the defences in 1998 has confirmed that the seaweed vegetation of the rocks and blocks has diversified considerably from the initial and very common pioneer species. The flora now includes seaweeds that have not been seen on Merseyside for a century and others that are new to the region. These more unusual seaweeds show a marked preference for the rocks, probably because the latter have a greater variety of microhabitats (crevices, overhangs, etc.) than the blocks. So, as the century ends, we have the interesting combination of an estuary no longer polluted with sewage, a chemical industry giving more attention to the matter of waste disposal and the installation of new hard substrata for colonisation by seaweeds. What a pity the reefs lie just outside VC59!

Dr George Russell

Angus Gunn's Sandy Sunday

by
Shelagh Moss

Sunday not a day of rest
Off to the beach, that's the best
Sitting in the big red car
"We'll be there in half an hour."

Angus wants to lead the way
Across the dunes,
And on the grass we count the plants
One by one, and ask just ask.

We see the lizard on his perch,
Sandy lizard is his name
Hangs his tail, beats his heart,
Smiles his way, does his part,
We watch him rest, in the sun
On a warm Sunday with Angus Gunn.

A Cormorant black, opens his wings
Like an Egyptian hieroglyph,
Over water leans a statue,
From another time
We count the flowers, and time in rhyme

And Tom drinks from his flask of tea,
And Patrick arrives late,
Missed the train you see,
And Susan has a map in her pocket
And Shelagh's leggings
are yellow, shock it.
The two girls chat about life and time,
And Ron's got his several jumpers on
To count the plants, one by one.

Angus wants to lead the way
Across the dunes, and in the slack
We see the tadpoles natterjack
A stickleback swims a lonely ride
Across shallow water, to the other side.

We find the Blackthorn, narrow grass,
Agropyron and Sea Lime,
Dune succession in a line
A forget-me-not so small,
Could just be missed
Creeping willow, water mint
Smelling sweet beneath our feet.

We count the flowers one by one,
And someone makes a big long list,
And Tom's already got one,
and Ron is Ron
and thinks he knows what it is,
the Evening Primrose, Sedge and Rush,
Lichen, Moss, Fern and Fungus,
You should just see us counting flowers
one by one.

And in the middle and at the end,
The plants remain at every bend,
And hidden in every nook and cranny
We feel we cannot count so many

And Angus, who can be sometimes quiet,
Though he answers well to "Why it?'
Says let's go down to the beach and see
The flat and plain and watery

And then we drive our way home,
It's good to feel you're not alone,
It's good to walk on a sandy beach
And in the dunes, almost out of reach
On a sandy Sunday with Angus Gunn.

Lyme-grass, *Leymus arenarius*

Letters

Congratulations on another brilliant *Parnassia*. It's a great comfort to keep up the links now that I can't attend the field meetings, and I particularly liked the tribute to Emily Margaret Wood whose drawings are at least being revived and appreciated all over again.

Apropos Hugh McAllister's article,

adapted from an original one, I was much interested in what he wrote about Corncockle. We grew it in the garden here from about 8 years ago and each year it has increased. It grows quite upright and has never readily flopped over, as Hugh indicated. Nor is it in a regularly disturbed habitat; it has just been allowed to carry on and to cover more ground, also appearing at nearby spots.

Now I ought to mention that the other gardener did some over-zealous weeding last year, evidently before the Corncockle had seeded, as we didn't get this year the wonderful swathe of it that so much appeals to me, but we had enough to carry it on.

Basically it's heathland here, not far from Bidston Hill, but there have been some applications of proprietary compost (what we make ourselves is reserved for the blackcurrants etc.).

Best wishes

Jean Bentley

P. S. The Corncockle seed was originally from one of the wild flower collections.

Note from Ed: Does anyone have any theories as to why Jean's Corncockle has not flopped over or why it persists in an undisturbed habitat? Please write in.

Contacts

President: **Dr Angus Gunn**

Vice-Presidents: **Dr John Edmondson**
Peter Gateley

Hon. Secretary: **Vera Gordon**
23 Alder Grove
Waterloo
L22 2AL

Hon. Treasurer: **Douglas Lockwood**
13 Stanley Road
Formby
Liverpool
L37 7AN

Hon. Librarian: **Claire Smith**
Botany Department
Liverpool Museum
William Brown St.
Liverpool L3 8EN
Tel: 0151 478 4369

Hon. Editors: **Keith Hatton &**
LeanderWolstenholme
Ness Botanic Gardens
Ness
South Wirral
E-mail: ljw@liverpool.ac.uk
kjhatton@liverpool.ac.uk