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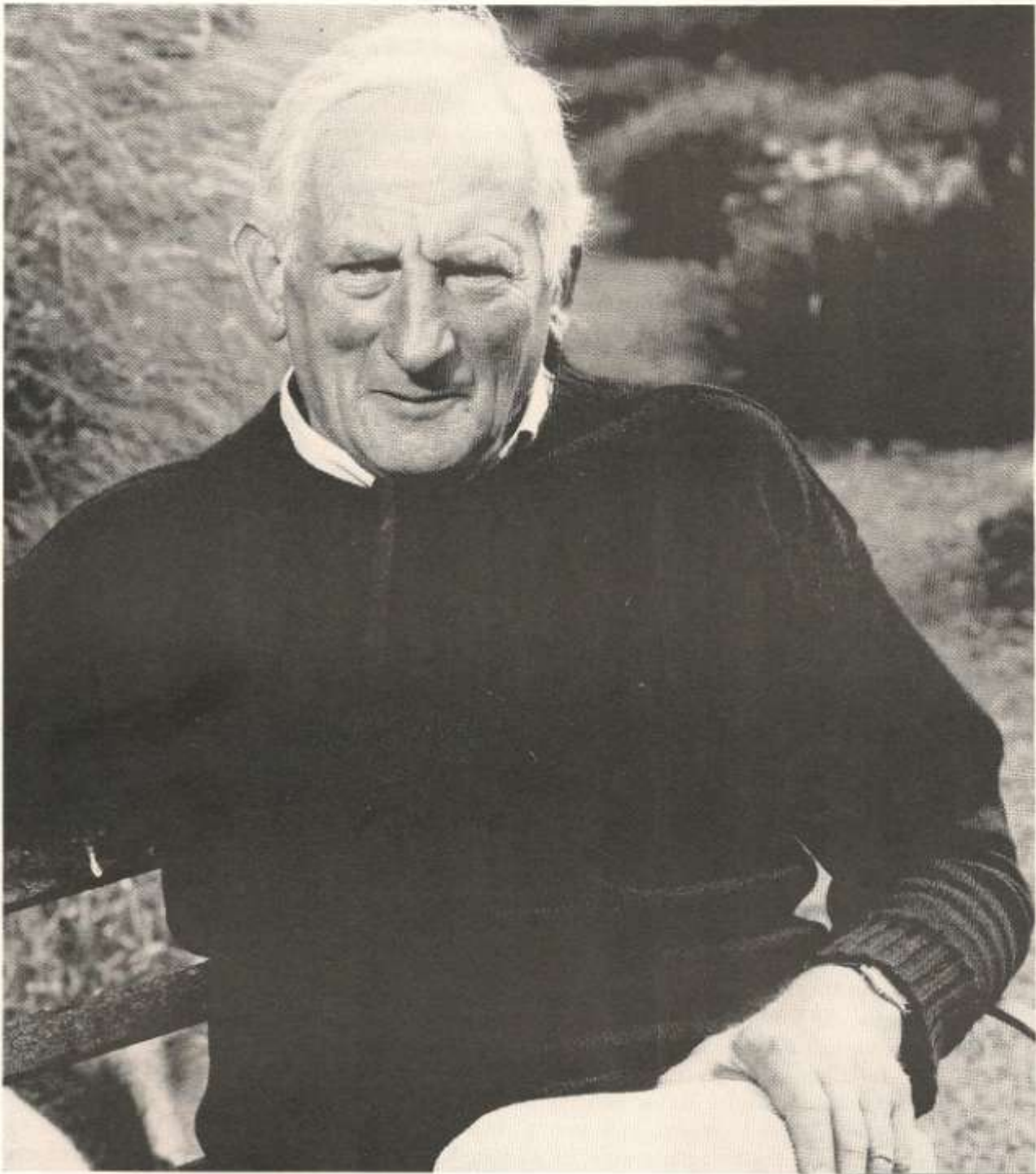
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Front Cover - *Nesocodon mauritiana* drawn by Maura Greene (courtesy of Trinity College Dublin Botanic Gardens).

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DAVID SHACKLETON — AN APPRECIATION



Think of a trials-ground containing nine to ten thousand species and cultivars in a walled garden of less than two acres in which alpine, ericaceous plants, woodlanders, herbaceous perennials, small shrubs and ornamental grasses lived harmoniously. This trials-ground was Beech Park, Clonsilla, its director, clerical staff, collector, curator and gardener, all one man — David Shackleton.

Once or twice a year he took his car over to Great Britain and travelled many hundreds of miles to visit botanic gardens, nurseries, private gardens and like-minded plantmen anywhere, and brought

back on each trip hundreds of plants for assessment. He was always on the lookout for rare or endangered species or those cultivars feared to be lost to cultivation, and also the best of the new hybrids, from all over the world. He got great joy in rescuing and rehabilitating some long-lost plant from an old abandoned garden or even from under the weeds in an old nursery. In other words, he was predating the ideals of the National Council for the Conservation of Plants and Gardens by twenty years or more.

I think the first time I heard of David Shackleton was from Lady Moore in about 1956; she offered to arrange a meeting but somehow we never got round to it. Then in 1958, David had an article on *Verbascum dumulosum* published in the *Journal of the Royal Horticultural Society*. In 1961 he was honoured by an invitation to address the third International Rock Garden Conference, London, in a symposium on 'My experience of growing difficult genera' – his subject was 'The Genus *Celmisia*'. Very few of us knew much about these mountain daisies of New Zealand and only two were commonly available: the wrongly-named *Celmisia spectabilis* (= *C. semicordata*) and *C. webbia* (really *C. walkeri*). Then he appeared on two occasions at our Alpine Garden Society's Belfast meeting as a background support for Valerie Finnis when she lectured to us in the early '60s.

Our first real contact was in 1964 when I was touring Rowallane with John Hanvey, the Head Gardener (one of my early mentors); David arrived with his sister Mrs Brown, and we all continued the tour together. I soon realised that here was someone entirely out of my league, that my plant horizons had been very restricted and that a whole new world was out there; I understood Keats' and Chapman's Homer –

*Then felt I like some watcher of the skies
When a new planet swims into his ken.*

So I eagerly accepted the offer to be included with John on a return visit to Beech Park.

When John Hanvey and I entered the walled garden we were overwhelmed by the stunning mass of crown-imperials which are still there after twenty-five years. I remember the Alpine House with steps down into it, the central path being about three feet below ground level, and the eaves of the glass roof close to the ground so that the rainfall percolated in to the borders, but the plants were dry overhead.

I was so besotted by the amazing *Omphalodes luciliae* with its good blue flowers, self-seeding everywhere, that I did not take note of what else was there. There was a comprehensive collection of about 250 saxifrages reflecting the influence of the Waterperry School and Valerie Finnis. We saw with astonishment his raised beds with twenty species of *Celmisia*, and not only self-sown seedlings but also the little green cotyledons of seeds germinating while still in the flower heads.

We wrote strange names in our notebooks till our brains refused to take in any more, and we were invited to choose what we wanted to bring home with us. We hastily disclaimed any covetousness, but David knew what we were really thinking and demanded my notebook. I can't be sure now of all we collected that day, but I still have *Eryngium agavifolium*, *Cornus canadensis*, *Astragalus tragacantha*, *Celmisia brevis*, and the greatest treasure of all, a ten-inch clay pot of *Myosotidium nobile* (as it was then) with two flowering stems which set good seed and kept me and others stocked for some years! He told us he could not grow *Meconopsis* or primulas well, which saddened us, for we both felt confident about these genera. He attributed this difficulty to the lower rainfall.

There have been changes in the walled garden; the layout is the same, but the roof has been removed from the old Alpine House and the long vegetable border has shortened as the collection of hardy perennials has increased, and among these now are splendid groups of *Meconopsis* and candelabra primulas. Pride of place must be allocated to *Primula whitei*. Over three hundred marvellous plants on a raised bed give an awe-inspiring spread of pure ice-blue in early March; this bed has a tilted glass roof to ward off rain for the winter. The *Celmisia* species have increased from 20 to 37.

David believed in broad massed plantings; he had a great affinity with his plants and their health was all-important – he could tell at a glance if any plants were unhappy. He especially loved *Kniphofia*, *Polygonatum*, *Meconopsis*, *Saxifraga*, *Helleborus*, herbaceous cultivars of *Lobelia*, hardy orchids, poppies, snowdrops and ornamental grasses. I have one of his most architectural reeds which he gave me about a year ago in an 8-inch clay pot – six feet long wands of *Cyperus papyrus* which

travelled very well from Dublin to Ballymoney. While not hardy, it is quite happy to winter in the kitchen and one of its offspring is ready now for adult life in the pond.

There are many influences which mould one's gardening philosophy through the years — local societies, periodicals, journals, nurseries and head gardeners — but most influential are the true, enthusiastic plantmen. One of the tributes that I value most highly was to be bracketed with David when Charles Nelson dedicated his book *An Irish Flower Garden* to Evelyn Booth, Molly Sanderson and David Shackleton. It would not be fair to say that David was the only 'plantsman' from whom I learned, for that would not acknowledge the debt I owe to so many kind friends, but the sheer breadth and authority of his plant knowledge set him apart from the others.

David did not seek the limelight; he was a very private and reserved person liking to be left alone to do what he did best — grow plants. Nevertheless, after considerable debate and persuasion, he did agree to help with judging at shows and selling at plant sales and I judged with him on many occasions both for the Belfast group of the Alpine Garden Society and in Dublin for the Royal Horticultural Society of Ireland and the Alpine Garden Society (Southern Group). He was never a compliant member of the team; he would wait quietly in the background while the others debated the 'pros' and 'cons' of the entries. He rather thought all this was a great waste of time — one or two glances were enough to allow him to decide the order of excellence and more often than not he was right.

When he agreed to help at plant sales, he did so with whole-hearted enthusiasm and generosity, spending the whole day with friends setting up a 'connoisseur's corner' stocked with rare and beautiful specimens of alpine, perennials, shrubs and trees, brought by them. This table was always the first to be sold-out at realistic prices. As Mary Davies said at the Irish Garden Plant Society's annual general meeting in Waterford (May 1988), "I got it from David Shackleton" will be heard for many years when plants are being admired or exchanged.

The garden at Beech Park was featured as the ultimate production of 'A Growing Obsession', in the first series of six RTE television programmes on notable Irish gardens, presented by Charles Nelson. The title might have been coined for David alone. It is good that we have a permanent visual and spoken record of a fabulous plant collection of major importance, not only in Ireland but further afield. That beautiful book, *In An Irish Garden* edited by Helen Dillon and Sybil Connolly, gives us a record of the garden written by David himself. There are not many gardens here so well-annotated and documented, which is so useful for future historians.

One of the horticultural highlights of the year for me was when David rang to ask if he could come up some day next week, or if I would go down. Under his often gruff exterior was an unexpected sentimentality — when chaffing him for some rather dowdy plant in a prominent position, he regretfully agreed, but could not find it in his heart to discard an old friend's plant. On another occasion I was in a group visiting a distinguished garden in south Tipperary and found that David had been there for two or three days weeding and working to help prepare for our visit.

I saw David just a day or so before he died. He is gone now, but memories remain of a unique, distinguished gardener and a fine friend. I wish to remember him as he was, enjoying life to the full, and the lines of Walter Savage Landor come to mind:

*I strove with none; for none was worth my strife;
Nature I loved, and, next to Nature, Art;
I warmed both hands before the fire of life
It sinks, and I am ready to depart.*

MOLLY SANDERSON

(photograph 1987 by Mary Bracken; courtesy of RTE).

ILEX x *ALTACLERENSIS* 'LADY VALERIE' OR 'RIPLEY GOLD' – AN ENIGMA.

In October 1976, during a visit to the property of the late Sir Basil Goulding at Dargle Glen, Co. Wicklow, Dr Neil Murray of the Regional Nurseries, Dundrum, noticed a striking sport on a plant of *Ilex* x *altaclerensis* 'Golden King'.

'Golden King' is a handsome, golden-margined sport from the green-leaved 'Hendersonii' (see Andrews 1983); both are female. This new sport initially appeared to be similar to 'Lawsoniana', which is a centrally-blotched sport also from 'Hendersonii', but on closer examination, several differences became apparent. The leaves of 'Lawsoniana' are fairly flat while those of the new sport have a confirmed twist. The area of gold blotch appeared to be larger in the latter and there is less of a tendency for reversion – always a problem with centrally-blotched hollies.

Dr Murray took the first twelve cuttings in October 1976 and they rooted some six weeks later and were grown on in containers. Repeated cuttings were made each year and the 1976 cuttings are now 2 m in height. Most of the early plants have been used as stock plants but there are now about one hundred plants ready for sale. This sport has been named 'Lady Valerie' in honour of Lady Valerie Goulding, wife of the late Sir Basil Goulding and it is a female clone.

Some years later, in November 1980, Mr Ted Sparkes of Beck End Nursery near Lymington in Hampshire, spotted a distinctive branch on a tall (7.5 m) 'Golden King' in the garden of a friend living in the nearby village of North Ripley. On further inspection, this proved to be a centrally-blotched sport from which he immediately took some cuttings. This was just as well, as that specimen of 'Golden King' was fruiting heavily (unusually so for the clone) and a few nights later, thieves sawed it down and carted it away, presumably for Christmas decorations!

The original batch of seven cuttings rooted well and were potted on. Eventually, there were a couple of hundred young plants in containers ready for sale, when the severe winter of 1985 killed them all! So further stocks had to be built up from the mother plants and these are now growing well.

To date, Mr Sparkes' original plants are about 1 x 1 m, fairly wide spreading with no apparent leader – a feature often shared for the first years with 'Golden King' and 'Lawsoniana'. Again, as with 'Lady Valerie', the foliage has a pronounced twist, but one advantage that the English sport has, is that it appears to keep its golden colour in the shade, unlike the two established sports.

The English sport has been called 'Ripley Gold' after the Hampshire village in which it was found and it certainly has had an eventful history so far. 'Ripley Gold' can be found in various garden centres in the south of England and I know of at least one plant in Ireland.

It is interesting to note, that over a four year period, two similar sports have arisen independently in these islands.

Acknowledgements

My thanks are due to D. Hutchinson, C.R. Lancaster, Dr N. Murray, Dr E.C. Nelson and E. Sparkes.

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A LIST OF GARDENS AND PARKS OF INTERNATIONAL AND
NATIONAL SIGNIFICANCE IN THE REPUBLIC OF IRELAND
(JANUARY 1988)

In 1980, a list of outstanding gardens and parks in the Republic of Ireland was prepared on the initiative of ICOMOS (International Council on Monuments and Sites), which had been established under the aegis of UNESCO (Glin and Bowe, 1980). It was to form part of an international list prepared by its member countries as part of an international programme of conservation.

It was intended that the list should be preliminary and interim and it was proposed that it should be reviewed on a regular basis. The present publication will be the first review on the basis originally intended.

The original list included only the gardens and parks which are of *international* interest in their own right. It did not include those which can be said to be of *national* interest or those which are primarily interesting as the setting of historic houses, for example, at Beaulieu, County Louth or at Bantry House, County Cork.

It was decided by the ICOMOS Republic of Ireland Committee to publish, on this occasion, a secondary list of these gardens and parks in the second category as it feels that it is also necessary to conserve them.

It is hoped that the publication of this list, being part, as it is, of the international list compiled by the International Council on Monuments and Sites, will contribute to the conservation of these gardens and parks in Ireland.

A list of gardens of international importance within Northern Ireland was published in 1982 by the Northern Ireland ICOMOS Heritage Gardens Committee (Nelson *et al.*, 1982).

Illustrations and historical notes on many of these gardens can be found in the publications listed in sources.

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LIST 1. Gardens and parks of international importance

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Abbey Leix	Laois	Viscount de Vesci	*	*	*	*	*	*	*	*	18th c. landscape park and lake; early 19th c. parterre; 25 acre arboretum (Sitka spruce from Douglas's seed).
Adare Manor	Limerick	The Earl of Dunraven	*	*	*	*	*	*	*	*	Early 19th c. landscape park by James Fraser; mid-19th c. parterre by P.C. Hardwick; mediaeval ruins.
Annes Grove	Cork	P. Grove Annesley Esq.					*	*	*		Woodland, river and walled garden in 'Robinsonian' style, begun 1920; Kingdon Ward <i>Rhododendron</i> collection.
Ardsallagh	Tipperary	Mrs B. Farquhar				*	*	*	*		Compartmental garden begun 1948; herbaceous, shrub and alpine collection.
Avondale	Wicklow	Forest & Wildlife Service, Dept. of Forestry			*	*	*	*	*		Forest park & arboretum begun by Samuel Hayes in 18th c.; forest plots; tree collection.
Ballyfin	Laois	Patrician Brothers			*	*	*	*	*	*	18th c. landscape park by John Webb, replanned in early 19th c. by John Sutherland; follies, grotto and church; Victorian conservatory by Richard Turner.
Belvedere	Westmeath	Westmeath County Council			*	*	*	*	*	*	18th c. landscape park; eye-catcher after Thomas Wright; The Jealous Wall; belvedere; 19th c. tree collection; terraces based on Haddon Hall.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Park	Landscape Formal	Late Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings	Notes on Dates and Designers
Birr Castle	Offaly	The Earl of Rosse			*	*	*	*	*		*	18th c. park and lake; suspension bridge c. 1820; the Great Telescope House; river, terraced and Lagoon gardens in the 'Robinsonian' style; formal walled gardens and arboretum, begun c. 1918; Forest, Comber, Kingdon Ward and T.T. Yu plant collections.
Carton	Kildare	Powerscreen (Ireland) Ltd.			*	*	*				*	18th c. park and lake; bridge by Thomas Ivory; shell house; prospect tower; pleasure grounds; early 19th c. Italianate formal garden.
Castle Hyde	Cork	Mr & Mrs Wolsey	*	*	*	*						Ruined mediaeval castle; early 18th c. formal landscape garden with avenues, vistas, hedges and 'Angles'.
Castletown House	Kildare	The Castletown Foundation		*	*	*					*	Early formal park with vistas to Conolly folly, the Wonderful Barn and gates by Viceroy (1730-40), later landscaped in 'Brownian manner', with Batty Langley gate-lodge and domed rotunda attributed to Mrs Siddons.
Curraghmore	Waterford	The Marquess of Waterford			*	*	*				*	18th c. park, lake, memorial tower, shell house with statue by Van Nost; early 19th c. formal gardens by James Fraser; 19th c. garden statuary; Sitka spruce from Douglas's seed.
Dargle Glen	Wicklow	Dr T.A. Ryan				*	*		*		*	Woodland and river garden begun 1948 by Sir Basil Goulding; modern pavilions, sculpture.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal Garden	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Derreen	Kerry	The Hon. David Bigham		*			*	*			Woodland garden in 'Robinsonian' style begun by Marquess of Lansdowne c. 1880.
Dromoland Castle	Clare	Dromoland Castle Hotel		*		*			*		Early formal park probably by Switzer (rotunda, grotto & gazebo); naturalized in late 18th c.; early 19th c. artificial dolmen; lodges by Thomas Hopper.
Dunsany	Meath	The Lord Dunsany	*		*					*	Medieval abbey, Celtic cross, castellated lodges, gates in mid-18th c. park.
Farmleigh	Dublin	The Lord Iveagh				*	*	*		*	19th c. tree collection, walled garden, greenhouses; early 20th c. formal gardens and pleasure grounds; borders designed by Lanning Roper.
Fern Hill	Dublin	Mrs S. Walker				*	*	*			Victoria pleasure ground with laurel lawn; traditional kitchen garden; modern rock garden; <i>Rhododendron</i> collection.
Fota	Cork	University College Cork			*		*	*		*	18th c. park; early 19th c. tower by John Hargrave; arboretum begun by James Hugh Smith Barry c. 1830; formal walled garden; orangery.
Glenveagh Castle	Donegal	Commissioners of Public Works				*	*	*		*	Woodland, Italian and Belgian gardens; terraces, pleasure grounds and potager begun 1938; conservatory by Philippe Julian; hillside staircase
Glin Castle	Limerick	The Knight of Glinn			*					*	Demesne landscaped 1790-1836; Gothic lodges; hermitage of tufa (c. 1790) in woodland; castellated house.

Name	County	Owner	Ancient Remains (to 1750)	Early Formal Park	Landscape Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefact	Notes on Dates and Designers
Harristown	Kildare	Mrs D.C. Beaumont		*					*	18th c. landscape park; hut of Confucius from Wootton, Buckinghamshire.
Headfort	Meath	B.J. Kruger Esq.		*	*	*	*		*	18th c. park, lakes and follies; Dutch parterre (1879); arcaded yew hedge; arboretum (1913), Forest & Kingdon Ward <i>Rhododendron</i> collection; 19th c. mausoleum by J.F. Fuller.
Heywood	Laois	Salesian Brothers		*	*				*	Mid 18th c. landscape park with follies, mausoleum and towers; formal gardens designed by Sir Edwin Lutyens (1906).
Hume-wood	Wicklow	Madame Hume-Weygand		*			*			Early 19th c. park, lake and avenues; tree collection.
Inacullin	Cork	Commissioners of Public Works			*	*	*		*	Formal & wild gardens designed by Harold Peto for J. Annan Bryce (1913); arboretum and collections of tender plants.
J.F. Kennedy Park	Wexford	Department of Forestry					*	*		230-acre national arboretum begun in 1962.
Johnstown Castle	Wexford	Department of Agriculture and Food	*	*		*			*	Mediaeval ruin; early 19th c. park, lake, folly towers and gate lodges; late 19th c. arboretum.
Kildangan	Kildare	R. More O'Ferrall Esq.		*			*			Arboretum begun in 1946; landscaped park-land.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Park	Formal Landscape	Late Formal Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Kilruddery	Wicklow	The Earl of Meath		*	*		*			*	17th & 18th c. formal landscape garden, canals, round-points, hedges and avenues; 19th c. parterre, statuary, with conservatory by William Burn; terraces by Daniel Robertson; dairy by Sir G. Hodson.
Lambay Island	Dublin	The Lord Revelstoke					*			*	House & garden by Sir Edwin Lutyens (1907); original planting was by Gertrude Jekyll.
Lismore Castle	Waterford	The Duke of Devonshire		*	*		*			*	Early walled garden (1626); landscape park with bridge by Thomas Ivory; Yew Walk (1717); 'Robinsonian' style pleasure grounds.
Luttrellstown	Dublin	Luttrellstown Castle Ltd.			*					*	18th c. landscape park, lake, hermitage & cold bath.
Malahide Castle	Dublin	Dublin County Council	*			*	*	*	*		Medieval abbey & tower; 18th c. park; botanical collection begun by Lord Talbot de Malahide (1948).
Mount Congreve	Waterford	A. Congreve Esq.				*	*	*	*	*	18th c. greenhouses; woodland, rock & water gardens begun 1965; modern follies including pagoda.
Mount Juliet	Kilkenny	Mount Juliet Estate Ltd.			*						Mid-18th c. landscape park; walled garden redesigned c. 1930 by Mrs Solly-Flood.
Mount Usher	Wicklow	Mrs. Madelaine Jay				*	*	*	*	*	'Robinsonian' style woodland, water & rock gardens; plant collection includes <i>Eucalyptus</i> , <i>Nothofagus</i> & <i>Eucryphia</i> begun by Edward Walpole c. 1870; bridges.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Landscape Formal	Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Muckross House	Kerry	Commissioners of Public Works	*		*		*				Mediaeval abbey; 18th c. park; parterre by R. Wallace & Co. (1906); woodland and rock garden c. 1936; modern arboretum.
National Botanic Gardens Glasnevin	Dublin	Department of Agriculture		*			*	*	*	*	Began 1795 by Royal Dublin Society; present layout substantially as designed by Ninian Niven c. 1836; much developed in 19th c. by David Moore & Sir F. Moore; curvilinear range by Richard Turner (1843-1869); Chain tent (c. 1835); yew walk (c. 1730).
The National War Memorial Island-bridge	Dublin	The Trustees			*					*	Designed by Sir Edwin Lutyens in 1918, completed in 1940; pavilions, memorial stone and pools. (Restored 1988).
The Phoenix Park	Dublin	Commissioners of Public Works			*	*	*	*	*	*	Late 17th c. layout by Lord Chesterfield & Thomas Wright; Phoenix Column; lodges by Decimus Burton; pleasure grounds of Aras an Uachtaráin & American Embassy by Ninian Niven; Wellington Testimonial by Smirke; arboretum.
Powerscourt	Wicklow	R. Slazenger Esq.		*	*	*	*	*	*	*	Formal terrace garden c. 1740, embellished from 1840 by Daniel Robertson, James Howe, Brodrick Thomas, Edward Milner, Sir George Hodson, the 6th & 7th Viscounts Powerscourt; collection of rare statuary and build-arts; arboretum.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Rosdohane	Kerry	The Walker family					*	*			Woodland garden in 'Robinsonian' style begun by Samuel Heard c. 1870; southern hemisphere plant collection includes tree ferns.
Slane Castle	Meath	The Earl of Mountcharles	*		*						Medieval ruins; 18th c. landscape park by John Sutherland.
Tully, Japanese Gardens	Kildare	The National Stud					*			*	Designed by Tassa Eida (1906); tea house; Japanese garden ornaments.
Tully-nally Castle	Westmeath	The Hon. Thomas Pakenham		*	*					*	Early formal & late 18th c. landscape park; early 19th c. grotto & green-houses; American garden.
Westport House	Mayo	The Lord Alnamont			*		*				Mid-18th c. landscape park; formal Italianate garden (1906).

LIST 2. Gardens and parks of national importance

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Bantry House	Cork	E.G. Sheiwell-White Esq.				*					Formal Victorian garden in Italian style laid out by 2nd Earl of Bantry.
Beaulieu	Louth	Mrs N. Waddington		*		*				*	Relict 18th c. formal landscape; thatched Victorian summer house; herbaceous borders.
Castle Blayney	Monaghan	Monaghan County Council			*					*	Landscape park designed by William Sawney Gilpin, and temple.
Castle-town Cox	Kilkenny	Brian de Breffny				*					Landscape park with early 20th c. formal garden and box parterre.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal Garden	Plant Collection	Botanical Gardens	Buildings Artefacts	Notes on Dates and Designers
Castle Forbes	Longford	The Earl of Granard		*	*					Landscape park, river and bridges; formal gardens by the 8th Countess of Granard; cedars of Lebanon c. 1680.
Charleville	Wicklow	K. Rohan Esq.		*	*			*		Landscape park with formal gardens and orangery c. 1850.
Charleville Castle	Westmeath	David Hutton-Bury Esq.		*	*			*		Natural oak forest; landscape park with rustic bridge, grotto and Gothic menagerie, d'ole of Irish yews; arboretum originally planted by J.C. Loudon.
Doneraile Court	Cork	Department of Forestry		*	*					Early 18th c. wilderness and fishponds; mid-18th c. park.
Dunloe Castle	Kerry	Dunloe Castle Hotel	*				*			Medieval castle; 20th c. arboretum begun by Pettit family, and recently added to with the advice of Dr Krussmann and Roy Lancaster.
Emo Park	Laois	C.D. Cholmeley-Harrison Esq.		*	*			*		18th c. park temple and pyramid; Victorian formal garden and 'Wellingtonia' avenue.
Fenagh	Carlow	D. Pack-Beresford Esq.				*	*			Victorian pinetum, rock garden designed by Thomas Smith of Newry.
Furness	Kildare	O.J. Caffrey Esq.	*		*			*		Lake and 18th c. column; formal garden with 18th c. fruit wall and rare 2-storey orangery.
Glanleam	Kerry	K.F.M. Kreissig Esq.				*	*			Collection of southern hemisphere plants introduced by the Knight of Kerry (1808-1880), original plant of <i>Myrtus opiculata</i> 'Glanleam Gold'.

Name	County	Owner	Ancient Remains	Early Formal (to 1750)	Landscape Park	Late Formal	Landscape Garden	Plant Collection	Botanical Garden	Buildings Artefacts	Notes on Dates and Designers
Howth Castle	Dublin	C.S. Galsford St. Lawrence	*	*		*		*			Early 18th c. formal landscape garden; terre by Sir Edwin Lutyens (1906); rhododendron garden begun 1875.
Kilbogget	Dublin	M. Troughton-Smith Esq.				*	*	*			Late 20th c. garden; collection of trees and shrubs begun by S. Maskell.
Killineer	Louth	Miss Grace Carroll				*			*		Victorian and modern formal gardens with lake and temple; woodland garden by Sieve Donard Nurseries.
Kilmokee	Wexford	D.E.C. Price Esq.	*			*	*	*			Ancient mill; modern formal and woodland gardens, plant collection.
Lisselane	Cork	C.O. Stanley Esq.					*				'Robinsonian' garden laid out by Reginald Bence-Jones, c. 1910.
Lough Key Forest Park	Roscommon	Department of Forestry	*		*				*		Mediaeval ruins; 18th c. lakeside park, follies, castles, fishing house and gate lodges.
Luggala	Wicklow	The Hon. G. Browne			*				*		Gothic folly and rustic bridges by Francis Sandys; temple from Santry Court.
Lyons	Kildare	University College Dublin	*		*				*		Ruined castle; early 18th c. park, pillar, Turkish tent and formal garden.
Mulroy	Donegal	The Hon. Hedley Strutt				*	*	*			Plant collection made by 5th Earl and Countess of Leitrim.
St. Stephens Green	Dublin	Commissioners for Public Works				*	*	*	*		Public park designed c. 1880 by William Sheppard with rock work by Fulham & Sons and buildings by J.F. Fuller.

BOTANIC GARDENS AND GLASSHOUSES AT QUEEN'S COLLEGE, CORK

During the search for material on the botanic gardens and glasshouses at Queen's College, Cork, a handwritten catalogue, dated 1913, containing a list of apparently unpublished *Abutilon* cultivars, came to light. Two notes from the catalogue have been included in this paper.

Queen's College, Cork (QCC) was opened in 1849 and William Hincks was appointed as first Professor of Natural History. He organised a botanic garden in the grounds of the University some time between 1850 and 1853. As early as 1855-56 the *President's Report* (by Sir Robert Kane) noted that under the active supervision of Professor W. Smith, the arrangement of the Botanic Gardens had been much improved. The number of medical and other plants in the Botanic Gardens was already 1,640 and the gardens were 'accessible to the students at all College hours and free access was given to the public generally at hours not devoted to class instruction'. Space had been made for a hothouse but subsequent issues of the *President's Report* consistently included requests for a conservatory or hothouse as well as heat for the museum.

In the *Report of the Royal Commission on Scientific Instruction* (1873-74), Sir Robert Kane, on being interviewed in July 1872, pointed out that they had formed in the grounds of the College 'a small garden containing such plants as are useful in illustrating lectures on Botany, and on materia medica in the medical school; as will grow in the open air' but he added that there was no conservatory or stovehouse. He stated that the government had 'never conceded the means of erecting a stovehouse, in which they could have a collection of tropical or subtropical forms as would render the illustration of living plants more complete'. Kane referred to his presidential report of 31 March 1872, in which he had stressed the urgent need for a conservatory or hothouse. He informed the Royal Commission that 'the Professor of Natural History has the head gardener, who is a very good botanist, and quite capable of arranging everything connected with the preparation of the botanical lectures and supplying specimens, and who in that regard may be considered a kind of botanical assistant.' Mr Sullivan, superintendent of the Botanic Gardens, was said to have undertaken to make a catalogue of the herbarium (*President's Report*, 1877).

Kane resigned from QCC in 1873 and was succeeded as President by Dr W.K. Sullivan. Sullivan, unlike Kane, dedicated himself fully to QCC until his death in 1890 (when he was succeeded by Dr Slattery). Sullivan, who was born in Cork, used his influence to enlist the support of important local people as he realised that the College was lacking in funds and equipment. He had a great friendship with William H. Crawford of Lakelands, the wealthy owner of Beamish and Crawford Breweries, Cork. Crawford became the most generous and helpful benefactor of the College (Gwynn, 1960).

Sullivan drew attention (*President's Report*, 1877) to the fact that additional land was needed by the College to secure free space before the adjoining land should be built upon and to supply both an entrance to the College from the Western Road and also 'a suitable ground for a small botanic garden' and a good site for plant houses. The original botanical plot was surrounded by tennis courts and located at the south-western corner of the Quadrangle near where the restaurant and Observatory now stand (Griffin, 1944).

Crawford responded and the necessary land was purchased about 1878. This land included the areas from the Western Road to where the Old Dairy Science Building stood, the area now occupied by the Honan Chapel, and much of what was to constitute the new Botanic Gardens. Crawford also donated a considerable number of books to the College Library (*President's Report*, 1878), £1,000

for the erection of the Observatory, which still stands, and offered £1,500 for the erection of plant houses and the layout of the Botanic Gardens. He later increased his total donation to £2,750, which was estimated as being half of the cost of the work in question, on condition that Parliament would provide the money for enclosing and laying out the new ground and making a new entrance to the College from the Western Road. In his report for 1879, Sullivan stated that Mr Crawford had paid the promised money and that the new entrance bridge and road had been completed and opened to the public and also that 'the plant houses have been completed and will be ready to receive plants in a few weeks and that in connection with the plant houses, a biological laboratory adapted for chemical, histological and other experiments on plants and animals, has been built and will be ready for work next session'. The laboratory was sited adjacent to the plant houses in what is now the single-story southern end of the Biological Building. The 1879 *President's Report* tells us also that 'the ground for the new Botanic Gardens had been levelled, improved by the addition of a considerable quantity of fresh mould and laid down in grass, preparatory to the formation of the beds for the natural orders. When all of these things have been completed and the houses and gardens furnished with plants, Queens College, Cork, will possess one of the most complete biological institutes to be found in any university'. Sullivan was deservedly proud of what he had achieved during his first six years as President. In his 1879-80 report we learn of the purchase of a piece of land adjoining the Botanic Garden. This site is now occupied by the Honan Hostel.

In the *President's Report* for 1880-81, it was stated that 'the Botanic Garden was now fully laid out, with a fine collection of plants, to which additions were steadily made', and that 'a special Medical Garden has been laid, in which the plants are arranged according to their pharmacological qualities. Another piece of ground has been set apart for a Mythological Garden, and will contain as far as possible the sacred plants of the Greeks, Romans, Celts and Northern nations, as well as those of Egypt and India so far as they can be grown in the open air. It is also proposed to add the principal plants mentioned in Greek and Latin authors. This garden will, it is hoped, be of much use to students of the ancient classics and also to art students'. The same report also referred to the development of the Biological Laboratory connected with the plant houses and the prospect of fitting up an aquarium attached to it.

In the initial stocking of the gardens and plant houses, specimens of plants were received from Kew, Glasnevin, and Trinity College, Dublin, and from private individuals. Without doubt, however, the single greatest benefactor was William Crawford. He continuously donated plants to QCC and even after his death in 1888, his own important collection of plants was divided between QCC, Glasnevin and Kew (Crawford and Nelson, 1979). He also endowed the Cork School of Art (the Crawford Municipal Art Gallery) and gave it a beautiful building and was a benefactor of the vocational schools. He was, moreover, a distinguished and successful horticulturist (Crawford and Nelson, 1979).

The original plan of the Systematic Garden was considered unsuitable and in 1883 John Griffin, the head gardener (from 1881 to 1924) was sent to Kew. The result was that the QCC beds were laid out in the fashion of that time. In 1909 Henry Cummins was appointed to the Chair of Botany at QCC. Prior to his appointment he had been an assistant at the Kew Herbarium from 1906 to 1909. With reference to the Botanic Garden at University College, Cork, Cummins (1914) stated that 'the Botanic Garden, plant houses and biological laboratory are at the south-east end of the University grounds, standing in about three acres of land, of which the systematic garden occupies about one and a half acres. The biological laboratory accommodates over 50 students and is directly connected with the plant houses. The Palm House is placed centrally and contains many tropical palms and other plants such as *Brownea* (six species), *Saraca indica* and *Saraca* hybrids obtained from the collection of the late W.H. Crawford. In the cooler houses are orchids, cacti and other interesting plants. There are some fine specimens of Tree Ferns in a house set apart as a fernery'.

According to McCracken (1980), an anonymous correspondent for the *Gardeners' Chronicle* described the Gardens as being rich in choice plants including varieties and hybrids of *Brownea* 'not to be seen so well grown and fruited elsewhere'. These *Brownea* hybrids almost certainly came from Crawford's collection.

In 1913 Cummins had catalogues made not only of the plants in the herbarium but also of 'Plants in the plant houses UCC' of which there were over three hundred species and 'Ferns in Plant House 43 species'. Some of the catalogues were initialled 'JJL 14/11/13': J.J. Lawlor was attached

to the grounds at UCC at that time, but little is known about him except that he was a retired army captain. The catalogues also contain the following two notes also apparently written by Lawlor.

Note 1. *Abutilon*:

Abutilon began by crosses between *darwinia*,

into these hybrids was introduced a cross of *vexillarium*.

The *vexillarium* blood may be recognised by (1) the dark spot at the base of each petal, (2) the tendency of the calyx to be more or less coloured in the flower and puckered in the fruit.

One of the most remarkable hybrids in 'Mrs H. Cummins', which is habitually tetramerous.

'Miss Moynihan', which grows out of doors, has Hibiscus-like habit and suggests that one of the supposed failures in crossing by Hibiscus may have succeeded. Two or three primrose-coloured flowers with abundant fertile pollen always present atrophied stigmas which are unable to force their way through the staminal tube.

All the forms are something more than half hardy in open ground, some of them having survived for twelve years, including one winter that killed off all the Eucalyptus trees of the neighbourhood. They seed freely in the open as well as in the greenhouse; the outdoor flowers being smaller except in very hot weather.

The seeds germinate slowly and unevenly unless treated for some time with some reagent like oil or vitriol.

Some of them show variegation in shape of white or pale yellow along the veins. Other show a tendency to erythrotannic colouration, having reddish stems and in full sunshine claret-coloured leaves.

Note 2. *Saraca* hybrids (= *Jonesia* hybrids)

Saraca indica came to the College from the late Wm. Crawford's collection (Lakelands, Co. Cork), it is recognisable by the scented flowers.

Hybrids were obtained at the break-up of the Crawford Collection. History given was that they were crosses between *Saraca indica* and the plants imported as *Amherstia nobilis*.

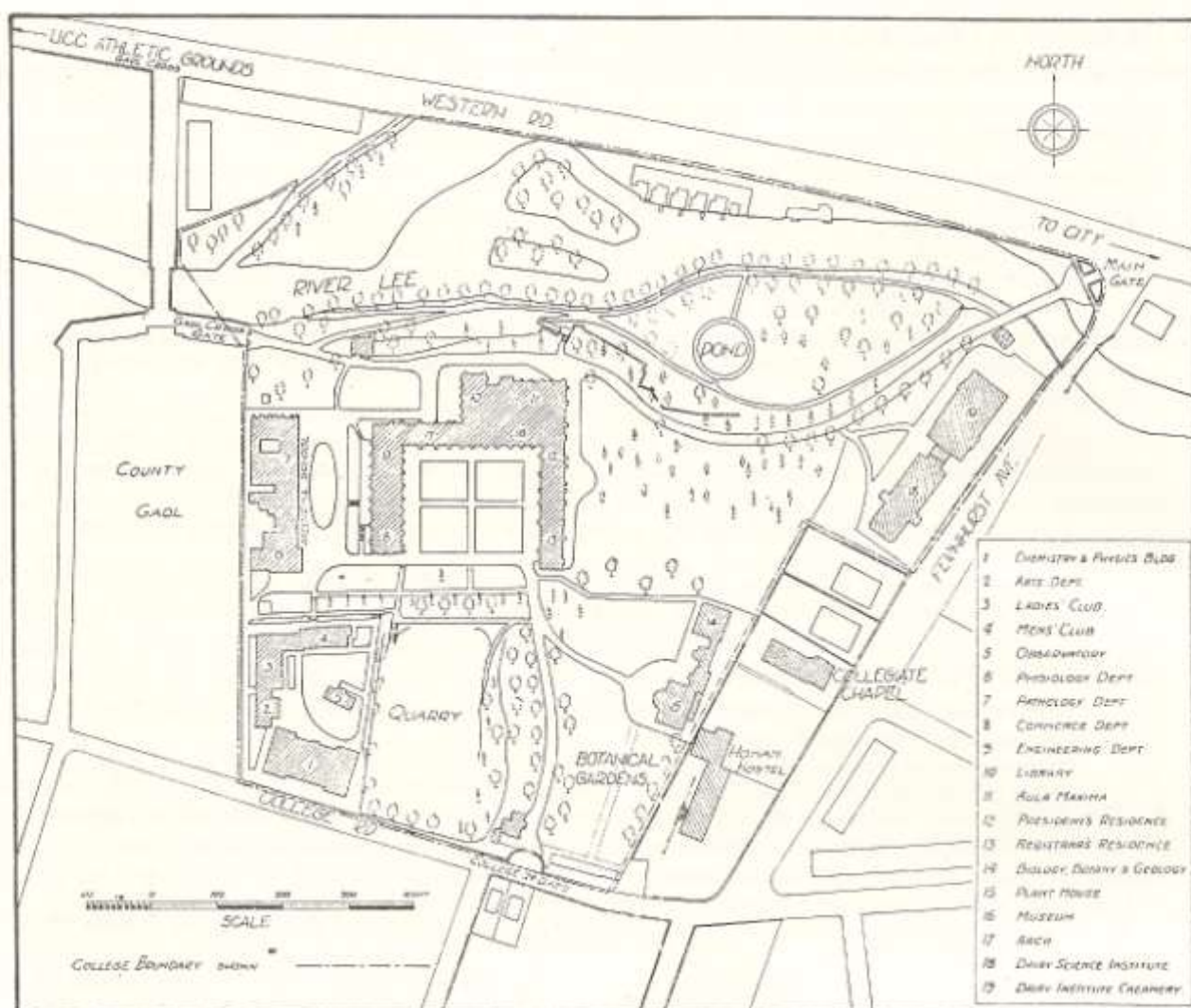
As a matter of fact one of the hybrids had brilliant pink flowers and distinct glandular apices to the leaves. In the other hybrids the glandulation of the apices of the leaves is irregular and inconstant. It seems probable that this hybrid closely approximated to the second parent which must therefore have been *Saraca triandra* (misnomer *tetrandra*); unfortunately, this specimen has been lost, as well as some of the other most interesting plants viz. — *Psychotria suffruticosa*, Rubiacene, Brazil; *Garcinia pictoria*, Guttiferae, Malaya.

The Catalogue of the 'Plants in the Plant House' lists the following: *Saraca* hybrid, *Saraca indica* along with *Abutilon* 'Mrs. Windle', 'Mary Windle', 'Mrs Alexander', 'Mrs H. Cummins', 'Roseberry', 'Sandone', 'Swaritzii', 'Sir Rowland', and 'Thompsonii'.

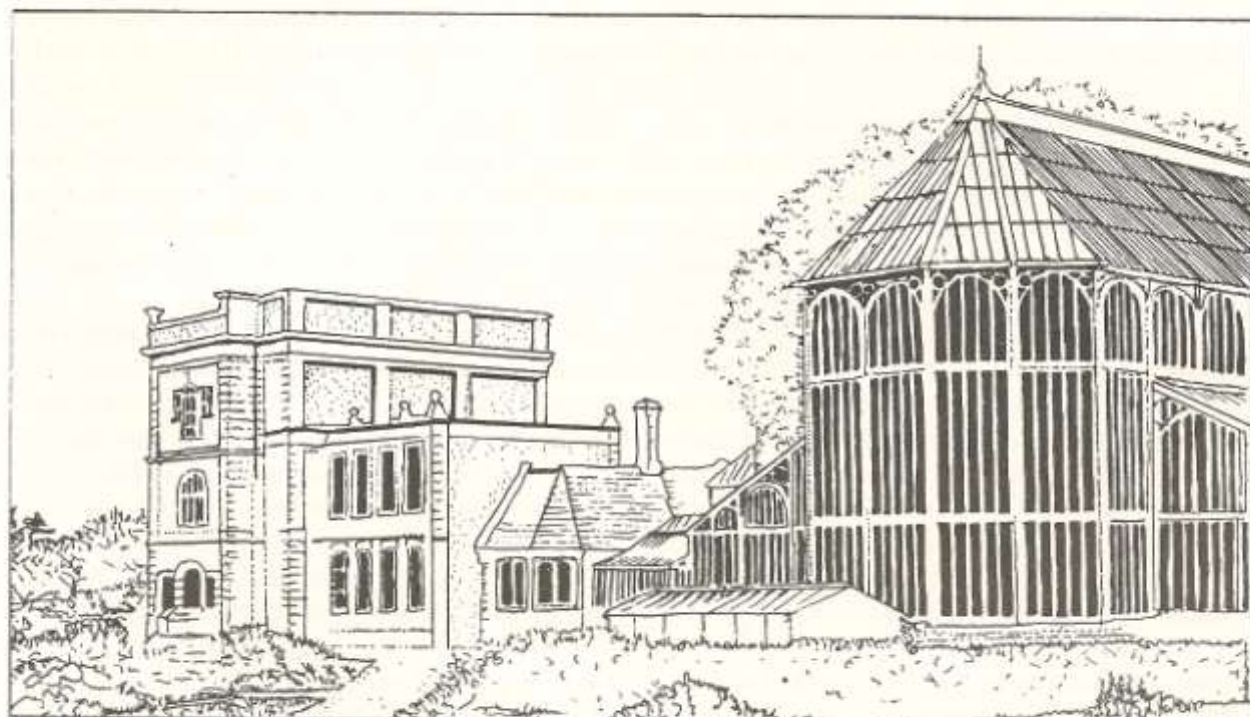
Mrs Windle was the wife of Bertram Windle, the President of QCC. Mrs Alexander was probably the wife of Cork botanist Alexander, and Mrs Cummins was probably the wife of Professor Cummins.

In addition to the systematic gardens, Cummins (1914) states that there were rock gardens in both the upper and lower grounds, as well as artificial ponds for the cultivation of water lilies. The ponds also formed a habitat for many algae, small aquatic animals and Protista, while bog plants thrived in an artificial bog made in a concrete basin built specially for the purpose. Apart from the large pond, which was still in existence in the 'Lower Grounds' in 1987, there was up to some time in the 1970s a smaller pond with an adjacent rock garden situated directly in front of the Honan Biological Institute, but this area has since been levelled.

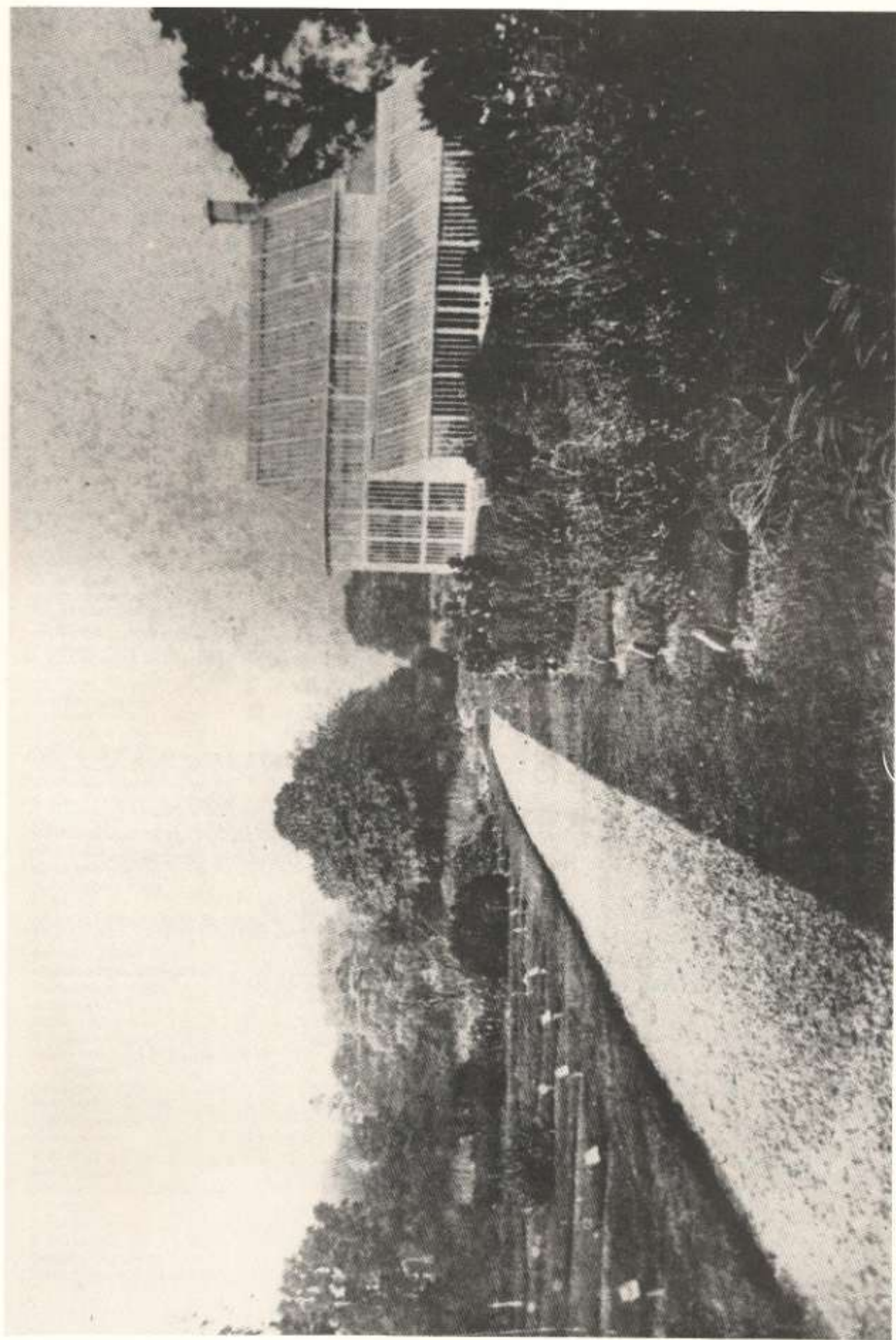
Following his appointment in 1949 as Professor of Botany at University College, Cork, Oliver Roberts found that not only were the plant houses in a dangerous condition, necessitating their demolition but that the systematic garden was in need of attention. He set about the task of having the beds renovated and all the labels checked and updated and reprinted. These labels were stamped on lead which was then mounted on an oval-shaped green-coloured cast-iron marker. This task was carried out by Tim O'Donovan who was the gardener attached to the Botanic Gardens and who was on the staff of the Botany Department until his retirement in 1980. Roberts arranged for the production and worldwide circulation of *List of Seeds collected in the Botanic Gardens UCC*; this commenced in 1954 and was directed by Marie McSweeney (Mrs Mockler) who was assistant in the Botany Department (she retired from UCC in 1970 and died in 1982) and carried out the duties of taxonomist to the Botanic Gardens. She was succeeded as taxonomist to the Gardens by the author who continued to produce the annual *List of Seeds* from 1970 to 1977. The formal



University College, Cork, grounds; c. 1930.



Biology Buildings and Crawford glasshouse; c. 1930 (redrawn from a photograph).



Botanical garden and glasshouse; c. 1930.

Gardens were demolished about 1978 during the construction of the nearby Boole Library. Little or nothing remains of the gardens except a clump of *Melianthus major* which continues to flower and fruit each year.

The hothouse which had been erected on a cement base but had a wooden frame, was demolished in 1954 due to its dangerous condition. McCracken (1980) briefly described the hothouse at UCC as having an overall length of 120 feet and width of 60 feet with a semicircular projection at the front. From an examination of some old photographs of the hothouse, some of which were taken at the time of dismantling, along with examination of the surviving 'back wall' against which the hothouse was constructed, the following details of the structure have been compiled. The wooden framed house consisted of a central part ('the Palm House') and this was attached or built onto a solid cement 'back wall'. The Palm house was some 10 metres high in the centre and some 8 metres high at its sides (due to the pointed roof) and was 8 m wide and 16 m long (i.e. extending out from the 'back wall') but had an additional 4 m semicircular front. On both sides of the 'Palm House' were attached two identical 'lean-to's', one of which housed ferns and the other, an extensive cactus collection. These 'lean-to's' were not as high as the Palm House. They were only 5 m high where they joined the Palm House and sloped to 3½ m at their outside. They extended 6 m wide outwards from the Palm House and extended along the side of the Palm House from where the semicircular front commenced back to the 'back wall'. However, in the case of the 'lean-to' on the southern side (i.e. nearest the Honan Hostel), it extended two sections (4½ m) further back beyond the back wall, where it was supported by a solid wall. This latter piece of this 'lean-to' is still in existence as is the original back wall and chimney.

The floor level of the Palm House was about a half metre below the level of the lean-to's and the adjacent ground level. Large sunken cement water tanks were built into the floor of the Palm House. The boiler house was likewise sunken below ground in the Gardener's House and potting house that existed on the opposite side of the 'back wall'.

In the late 1950s some smaller glasshouses were erected on the site of the original house but these were demolished and a new laboratory built on the site in 1986-87. During the erection of this laboratory the 'original underground water storage tanks were unearthed. This new laboratory is built against the back wall that supported the original glasshouses.

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APPENDIX

Plants in Plant Houses UCC

1913 [Names are transcribed exactly from the manuscript; orthography has not been altered even when incorrect].

- Abutilon* 'Mrs. Windle'
 'Mary Windle'
 'Mrs. Alexander'
 'Mrs. H. Cummins'
 'Roseberry'
 'Sandow'
sawitzii
 'Sir Rowland'
Thompsonii
Acacia dealbata
A. pentadenia
A. verticillata
Acalypha macaefana
A. marginata
Acanthus montanus (2)
Adhatoda cydoniaefolia
Aechmea fasciata (2) (= *Billbergia rhodocyanea*)
Agave mexicana (3)
A. [mexicana] variegata (2)
Alocasia [sp.]
Aloc arborea (2)
A. ciliaris
A. flavisipina
A. latifolia
A. mitraeformis
A. picta
A. vulgaris
Amaryllis ackermanni
A. reticulata (2)
Amomum cardamomum
A. granum paradisi (3)
Ananassa bracteata (20)
Andropogon schoenanthus
Angraecum eburneum
Anona muricata
Anthurium scherzerianum
Aralia arborea
A. papyrifera
A. pentaphylla
A. sieboldii variegata
Areca lutescens (3)
A. madagascariensis
A. sapida
Artanthe elongata (3) (= *Piper angustifolium*)
Artemisia judaica
Arthropodium cirrhatum (3)
Asparagus plumosus
A. sprengeri (2)
Aspidistra lurida
A. lurida variegata
Azalea indica (3) (= *Rhododendron indicum*)
Azara integrifolia
Beaucarnea recurvata
Begonia corallina (3)
B. fuchsoides
B. hydrocotylifolia
Berberis nepalensis
Billbergia hybrid (Mrs Dixon)
B. leopoldii
B. rhodocyanea
B. sphacelata
Bougainvillea glabra
Brassia verrucosa grandiflora
Brugmansia arborea
Bryophyllum calycinum
Brownea birschellii
B. grandiceps
B. latifolia
B. macrophylla
Caladium excultum (= *Colocasia esculenta*: = *Caladium violaceum*: = *Colocasia antiquorum*)
Calceolaria violacea
Camellia japonica
Canna indica (2)
Carissa grandiflora
Carludovica palmata
Ceratonia siliqua (Bean tree)
Cereus bridgesii
C. flagelliformis
C. multiangularis
C. peruvianus (2)
C. spinosissimus (2)
C. spinulosus
Cestichus pendula (4) (= *Liparis pendula*)
Chaenostoma hispidum
Chamaerops excelsa
C. fortunei
C. humilis
Chrysanthemum anethifolium
Chrysophyllum (2)
Cinnamomum sericeum (= *Laurus sericea*)
Citrus aurantium
C. decumana
C. nobilis (2)
Clerodendron fragrans flore pleno
Clivia nobilis (5)
Coccoloba platyclada (2)
Coclogyne cristata (8)
C. massangeana (2)
Coffea arabica
Cola acuminata
Combretum purpureum
Coprosma baureiana variegata
Corypha australis
Cotyledon [sp.]
Crassula albiflora
C. arborea
C. cooperi
C. lactea (4)
C. rosularis (2)
Crinum giganteum (3)
[C. x.] powellii
Croton irregularis (= *Codiaeum irregularis*)
Cryptanthus bivittatus
Cycas revoluta (2)
Cymbidium aloifolium
C. eburneum
C. giganteum
C. lowianum
Cyperus alternifolius (5)
Cypripedium barbatum
C. harrisiianum (2)
C. insigne (6)
C. lawrenceanum
C. spicerianum (4)
Dalbergia sp.
Dendrobium densiflorum (4)
D. fimbriatum (6)
D. nobile
Dichorisandra mosaica
D. vittata (2)
Dieffenbachia bausei
D. pearcei
Diervilla [sp.]
Dillenia speciosa
Dion edule
Disteganthus basilateralis
Dracaena angustifolia (2)
D. draco
D. goldiana
D. rubra (2)
Drimopsis maculata (6)
Dyckia remotiflora
Echinocactus ebenacanthus
E. longhamatus
Echinocereus enneacanthus
Edwardsia grandiflora
Encephalartos horridus
Encholirion saundersii
Epiphyllum speciosum
Eria excavata
Erythrina crista-galli
Eucalyptus globulus
E. resinifera
Eugenia pimenta
Eupatorium grandiflorum
E. haageanum
Euphorbia splendens
Ficus elastica
F. indica (Banyan tree)
F. religiosa (People tree)
F. repens
Franciscea latifolia (= *Brunfelsia latifolia*)
F. uniflora (3)
Francoa sp.
Fuchsia corymbiflora
F. procumbens (2)
F. syriaciflora
Furcraea selloa
Gardenia citriodora
Gasteria angustifolia
G. excavata
G. longifolia
G. pulchra
G. sp.
G. verrucosa
Grevillea robusta
Gustavia angusta
Habrothamnus elegans
Haemanthus albiflos
H. cinnabarinus
Haworthia subattenuata
Hedychium coronarium (2)
H. elatum (2)
H. gardnerianum (2)
H. gardnerianum coronarium (hybrid)
Heeria rosea
Heliotropium peruvianum
Hibiscus liliiflorus (2)
H. rosa-sinensis (5) (Chinese rose)
H. rosa-sinensis Dennisoni (3)
H. schizopetalus

Hoya carnosa
Hydrangea hortensis
Imanthophyllum miniatum (= *Clivia miniata*)
Justicia carnea
J. flavicoma
J. magnifica (6)
Kalanchoe glaucescens
Karatas sp.
Kleinia articulata (= *Senecio articulatus*)
K. repens (2) (= *Senecio succulentus*)
Laelia anceps
L. purpurata
Lantana multiflora (3)
L. mutabilis
Lapageria alba
Latania borbonica
Livistona hoogendorpii
Liriope spicata variegata
Lycaste deppei
Mackaya bella (= *Asystasia bella*)
Magnolia fuscata
Mammillaria sp.
Maranta indica
Masdevallia harricana (2)
M. octhodes
Maxillaria harrisoniae
Melaleuca hypericifolia
Mesembryanthemum album
M. crassa
M. turbinatum
M. uncinatum
Metrosideros robusta
Miltonia flavesceus
M. vexillaria
Monstera deliciosa
Muehlenbeckia platyclados
Musa basjoo
M. cavendishii
M. sapientum
Myroxylon pereirea
Myrsiphyllum asparagoides
Nerium oleander
Odontoglossum citrosum (2)
O. odoratum (2)
Olea europea
Oncidium flexuosum
O. sessile
Ophiopogon spicatus
Opuntia cochenillifera
O. decumana
O. leucotricha
O. senilis
O. vulgaris
Othonna crassifolia
Pancratium littorale
Panicum miliaceum
P. variegatum
Pandanus furcatus
P. utilis
P. veitchii
Pavonia spinifex (2)
Peirescia aculeata
Peperomia sp.

Phalangium lineare variegata
Phoenix dactylifera
P. reclinata (2)
P. rupicola
P. sylvestris (2)
Phyllanthus nivosus
Phytolophus macrocarpa
Pilea muscosa
Pilocarpus pinnatifolius
Pimenta acris
Piper chaba
P. futokadsura
Pitcairnia furfuracea
Pteroma macranthum
Plumbago capensis
P. rosea
Pothos argyreus
Primula obconica
Psidium cattleianum
Rhaphis flagelliformis
Rhipsalis mesembryanthemoides
Rhynchospermum jasminoides (= *Trachelospermum*)
Rivina purpurascens
Rochea falcata (2)
Rondeletia speciosa (3)
Ruellia macrantha (2)
Sabal adansonii
S. blackburnianum
S. sp.
Sansevieria zeylanica
Saraca hybrid
S. indica
Saxifraga sarmentosa
Sedum praecaltum (2)
S. sieboldii
S. variegatum
Selaginella kraussiana
Senecio heritieri
Solanum sp.
Sparmannia [sp.]
Stanhopea oculata
Stephanotis floribunda
Stiffia chrysantha
Strelitzia ovata (2) (= *reginae*)
S. augusta
Streptocarpus saundersii
Strobilanthes isophyllus
Swainsona coronillaefolia
Tecoma grandiflora
Theophrasta jussieu
Thibaudia floribunda
Thunbergia alata
Thunia alba (= *Phajus albus*)
Tillandsia lindeni (2)
Tornelia fragrans
Toxicophlaea spectabilis (= *Acokanthera spectabilis*)
Toxicophlaea thunbergii
Tradescantia discolor (5) (= *Rhoeo discolor*)
T. zebrina (30)

Thrinax gracilis
Vallisneria spiralis
Vanda suavis
V. tricolor
Wallichia oranii
Xylophylla latifolia (4)
Yucca aloifolia
Zygopetalum mackaii (8)

Ferns in Plant House 43 species 1913

Acrostichum lingua
Adiantum capillus-veneris (2)
A. cardiochlaena
A. concinnum
A. cuneatum
A. formosum (3)
A. gracillimum (2)
A. pubescens (3)
Alsophila australis (Tree Fern)
Asplenium bulbiferum
A. marinum
A. nidus
A. rhizophyllum (2)
Aspidium falcidum (= *Nephrodium falcidum*)
Blechnum orientale (4)
Cyrtomium falcatum (2)
Davallia bullata
D. canariensis (Hare's Foot)
D. dissecta
Dicksonia antarctica
Doodia aspera
Gymnogramme calomelanos
G. chrysophylla
Lactuca aristata
Lomaria gibba
Lygodium scandens
Nephrodium molle (4)
N. setigerum (2)
Nephrolepis effusus (2) (var. *divergens*)
N. exaltata
N. todiodes
Platyterium alcorni (elk's horn)
Polypodium aureum
P. billardieri
P. glaucum (4)
P. salicifolium
P. subauriculatum
Pteris cretica var. *albo-lineata* (3)
P. longifolia (3)
P. quardaurita
P. serrulata (40)
P. serrulata var. *cristata* (2)
Trichomanes radicans (Killarney Fern) (2)

DAISY BUSHES (*OLEARIA*) IN SOUTH-WESTERN CORK
AND THE FROSTS OF JANUARY 1987

I had a collection of twenty-six different *Olearia*. I say 'had' deliberately because the severe frosts of January this year (-8°C both by day and night for almost five days with a biting east wind) greatly diminished this number. They were all grown from cuttings dating back over the years to 1972. The majority are now established shrubs and trees of considerable size. Almost all the cuttings were given to me by the late Lord Talbot de Malahide, a friend of long standing who, having a property in Tasmania, assembled a remarkable plant collection at Malahide Castle, County Dublin including a vast number of species not only from Tasmania, but also from Australia and New Zealand. Whenever I visited him he pressed cuttings on me and used to say of *Olearia*, 'Set them in the teeth of the gales!'

There was, of course, no difficulty about that as there was nowhere else to set them! Now, as a result, I have arbours and sheltered places.

My garden is on high ground about 200 ft (60 m) above sea level, and about two miles (4 km) from the coast. It is open to all the winds but especially to the prevailing winds from the south-west and south.

It would be tedious to describe all the well-known, hardy varieties and species — *O. macrodonta*, *O. ilicifolia*, *O. x haastii*, *O. nummularifolia*, *O. x mollis* and *O. moschata*, none of which was damaged by the January 1987 frosts. Of these the so-called *O. x mollis* — a misapplied name — is the most worthwhile, a small to medium sized shrub with silvery-grey, undulate leaves and intensely white flowers in May. The pale fawn, fluffy dead flower heads are also not without charm against the silvery foliage. What is unusual in daisy bushes is that this shrub produces a second, although less numerous, flush of flowers in September and October. The plant incorrectly named *O. x mollis* is a hybrid between *O. ilicifolia* and *O. moschata* (the true *O. x mollis*, which is not cultivated is a hybrid between *O. ilicifolia* and *O. lacunosa*).

A less well known daisy bush which did not suffer, is given the name *O. oleifolia*, another name of confused application. I have two variants, to me indistinguishable, the labels having long-since been lost. Lord Talbot called them the British version and the New Zealand version. Neither are strong growers but are attractive with shining deep green slightly wavy leaves. The flower heads are a small version of those of *O. ilicifolia* but not so profuse. I can, incidentally, see no resemblance to *O. x haastii* as suggested in Hillier's Manual. The name *O. oleifolia* is said to apply to a hybrid between *O. avicenniifolia* and *O. odorata*.

Olearia x zennorensis which Hilliers consider tender, also came through the frost unscathed. It is a good foliage shrub, with long narrow, dark green toothed leaves. The whole shrub is very stiff and a shy flowerer. It is a hybrid produced by W. Arnold-Foster, of Zennor in Cornwall.

Another unusual species that suffered no damage is *O. coriacea*, medium sized and slow-growing with very distinctive foliage, twisted small leathery leaves about 1 in (2.5 cm) long, of a good mid-green. The flowers are inconspicuous and few in number. It is well worth having. Bean states that this is 'not known for certain to be in cultivation in the British Isles'!

Two interesting ones which suffered no damage are *O. virgata* var. *lineata* and *O. solandri*. The former is a useful and versatile shrub, either as a windbreak or hedge. It grows quickly and is easily kept in shape. As a windbreak it should be pruned down during the first two or three years and then

allowed to grow freely. I gave six plants to a friend who clipped them at an early stage and has continued to do so; they now form a solid hedge 7 ft (2 m) high and 2 ft (0.7 m) through, furnished almost to ground level. On the other hand, I have allowed three, set in a short row, to grow freely, apart from removing one or two pendulous branches; they are now 20 ft (6 m) tall and are beautiful from a distance. They resemble trees in paintings by Corot, with their pale grey-green feathery foliage. They also have a pleasant musky scent. I believe *O. virgata* var. *lineata* is a far better shrub as a windbreak than *O. traversii* for maritime sites.

O. solandri is also good in exposed situations. It is not tall like *O. virgata* var. *lineata*, being now only about 7 ft (2 m) high, but much more spreading in habit and with deliciously scented small flowers. Each time I pass by this shrub, particularly when it is in bloom, I am reminded of the voyage of HMS *Endeavour* from 1768 to 1771 during which Joseph Banks and Daniel Solander (after whom it is named) collected the first specimen to bring back to England. Bean described it as a dull shrub! How I disagree!

Now I come to 'Waikariensis', another unknown hybrid from New Zealand. What a splendid large shrub with no faults and untouched by the January 1987 frosts. I have three which are 6 to 7 ft (about 2 m) tall, furnished to ground level and completely covered, with pure white flowers like clouds, for three weeks in summer — their scent pervades the whole garden. Even the fawn-coloured dead flowers are attractive against the pale grey-green foliage. I have two forms of this *Olearia* — or at least, two different plants bearing this name were given to me — and as with *O. oleifolia*, it requires a botanist, which I am not, to distinguish them.

I wish I could be as enthusiastic about *O. semidentata* — Dr Nelson tells me that this name is also misapplied in gardens! — often regarded as the gem of the genus. It is beautiful when in good heart but some of its branches tend, for some unknown reason, to suffer from dieback. If removed at once it is not a serious problem, but the plant is choosy about its situation. Of my three bushes, the largest, in a fairly sheltered site, was killed outright in January. The other two in the highest and airiest part of the garden, were not completely killed but are now so shapeless that they will have to be removed. The manner in which the frost affected these two was curious. Up to the end of March 1987, they appeared quite undamaged and a fellow member of the Irish Garden Plant Society was as amazed as I was when she saw them. Then suddenly in April there were ominous signs that all was not well — shrivelling and discolouring of the flower buds and foliage and gradual dieback. Eventually only a few branches facing south-west were all that was left. From these, cuttings have been made to replace the originals in due time. (In *An Irish Florilegium II*, this plant has been renamed *Olearia* 'Henry Travers'.)

A hardy *Olearia* for which I have never been sure of a name, but seemed most like *O. aviceniifolia* because of its late flowering habit, is most probably — thanks to the help of Dr Nelson — the cultivar which has been named 'Talbot de Malahide'. It was described in the *IGPS Cultivar Card 10*, and it is the purple tinge mentioned there which gives the blossom a greyish look from a distance that makes me accept this identification. I hope it is so, but I have yet to be convinced of this when it flowers next year. To have a plant of this *Olearia* in a garden that contains so many of Lord Talbot's generous gifts is most fitting.

Mention must be made of a hardy New Zealand species, *O. hectori*, the only deciduous daisy-bush of which I am aware. It is an upright shrub of medium height, 6 ft or so, although I suspect it would grow into a small tree in its native habitat. It carries long twiggy laterals with nodes at 5 to 8 cm intervals from which are produced small, opposite, oval leaves (2-3 cm long), green above and white beneath. Some small daisies appear in the leaf axils in early summer. It is not a showy shrub as the foliage and blossom are sparse, but it is at its best in spring when the small new leaves are like silver sparks on the long delicate twigs, showing up brilliantly against a background of darker-leaved shrubs of similar height.

Finally of the hardy varieties is the uncommon *O. obcordata* from the Tasmanian mountains. It is slow-growing, small and fairly compact but can be straggly according to Lord Talbot writing in *The Endemic Flora of Tasmania*. Its attraction is its deep green-blue foliage, almost white beneath. The leaves are small and deeply lobed. With me the small flowers are sparse. Cuttings will root fairly easily but are very difficult to grow on, which is why I have only one plant after twelve years. I keep trying to propagate it, and last year one cutting was doing well only to have its leader bitten off by

a rabbit; they invade my garden from time to time. What remains is still alive but refuses to grow any larger.

Species which will withstand light frost with minor damage, but suffer severely when subjected to such exceptional frosts as that of last January are *O. rani*, *O. paniculata* (= *O. forsteri*) and 'Rossii'. I had made a circular arbour some 40 ft (15 m) in diameter and the south, through west, to north semicircle was planted with *O. paniculata*. These grew to about 20 ft (6 m) and were a beautiful sight. They have occasionally been slightly burnt by frost, but after last January all that remains is a thin veil on the western face. Even though there is some new growth in the bare trunks, I doubt that they will ever thicken up sufficiently to be worth keeping. My plants of *O. rani* — another hopelessly confused name — which are still youngish, were hit but are fortunately recovering. So is 'Rossii' if it can be described as recovery. This is a large, strong-growing shrub with stout upright branches. It has large, sweetly-scented panicles of flowers in early May. It is very attractive up to about 6 or 7 feet but thereafter it gets too tall and leggy. All that was left of these after January were the bare upright branches. These have been cut down to about 4 feet and new growth has emerged. It will have to be a mild winter if this is to develop. 'Rossii' is a shrub for a large garden in a virtually frost-free climate. It arose at Rostrevor in County Down and is said to be a hybrid between *O. macrodonta* and *O. argophylla*. It is named after Sir John Ross of Bladensburg.

Among the plants that I have lost completely are *O. traversii*, *O. erubescens*, *O. x scillionensis*, *O. phlogopappa* (= *O. stellulata*) 'Splendens' and *O. chathamica*. *O. traversii* is frequently used as a windbreak in maritime gardens and I had set six in a row to fill a gap. They were some 20 ft (6 m) high with trunks 1 ft (0.3 m) in diameter at the base. They were all killed outright. What shall I do now? No mechanical digger would be able to get to them to get them out!

O. erubescens is a large spreading shrub with thick mahogany-coloured branches and red-tinged new foliage. No frost had damaged it hitherto, but last January's frost killed it. *O. x scillionensis* is well known and a very worthwhile shrub; it has only suffered minor damage hitherto. It is an *Olearia* that requires rather more attention than most if it is to be kept to a round, bushy shape. Prune back when young and thereafter the long trusses of blossom must be removed after flowering. It is also excellent if grown in a dense plantation of mixed shrubs, where it will push through its long trusses to beautiful effect.

O. phlogopappa 'Splendens' is another that has to be taken in hand, on the same lines, at an early stage and dead flower trusses must be removed as soon as possible. Left to its own devices it becomes tall and leggy. The foliage is similar to *O. x scillionensis* and there are a number of colour variants — mine is pink-mauve. If anything it tends to start flowering too early, but if damaged by late frost it recovers and starts again. An airy situation is what it prefers. Incidentally this is the only plant which I was able to bring to Lord Talbot in return for all those he so generously gave to me. The original cuttings were given to me by Mrs Bell of Fota.

O. chathamica, excellent when thriving, is of lax habit with pale green shiny leaves and flowers similar to, but paler than those of the familiar *O. semidentata* and not as prolific. It has been up to about 5 ft (1.5 m) during a period of mild winters but has suffered fairly badly for the last two or three years and was killed to ground level last January. Some new shoots have sprung from the base in the summer so it will be retained, but it is not to be recommended for this climate. The same applies to *O. ramulosa* which I lost long before last January, a pity because it is a pretty small shrub.

These notes would not be complete without a brief summary and some recommendations, based on my own experience, which may be useful to other gardeners. I am thinking particularly of the trend to smaller manageable gardens where some of the strongly growing shrubs would be unsuitable. Frosts of the severity of last January would, I hope, be an unusual occurrence so those plants I suggest will stand the climate usually experienced in south-western Ireland.

Firstly, I recommend 'Waikariensis' — it will get a little too large but takes a long time doing it. Secondly the silvery-leaved *O. x mollis* is most desirable. Then *O. x scillionensis* which is good for years if looked after and is easy to propagate. *O. semidentata* (remember it has been renamed!) must be tried as must *O. phlogopappa* 'Splendens'. The latter will not get as large as *O. semidentata* which can in the course of time and if it thrives become a small tree. For foliage interest I suggest *O. coriacea* and 'Zennorensis'. Both are slow-growers and very distinctive. *O. obcordata* is smaller than the previous two and should be grown for its foliage also. *O. macrodonta* makes a small and

decorative tree. If a windbreak is required *O. virgata* var. *lineata* is the best. In reliably mild localities *O. paniculata* would suit. Those with large gardens or parks should try as many of the *Olearia* species and cultivars as possible. Apart from the two or three I have mentioned none requires any special maintenance and the innumerable varieties provide abundant interest.

Kilkeran, Castlefreke, County Cork.

Book Review

Wendy F. WALSH and E.C. NELSON. *An Irish florilegium II, wild and garden plants of Ireland*. 1987. pp. 216, illustrated. Thames and Hudson. ISBN 0-500-23508-2. UK£80.

When attending a basic course in watercolour painting recently, I felt that it really went against the grain to attempt to paint flowers in the impressionistic style which our teacher encouraged, because my memory was full of images of the exquisite precision of the work of botanical artists which I had seen, and in particular, that of Wendy Walsh in the first Irish florilegium, published in 1983. A second one with a further 48 watercolour paintings was launched this March. It is equally as beautiful as the first. Wendy Walsh has the gift of being able to represent the habit of a plant with absolute fidelity while at the same time producing a delightful, harmonious work of art. She was awarded her second gold medal from the Royal Horticultural Society for twelve of the paintings published in this book. Each one is accompanied by notes written by Dr Charles Nelson, which include a description of the plant in question, information on its cultivation and an often fascinating account of its history.

The book opens and closes with a rose and there is another near the centre. The first is the native Irish hybrid, *Rosa x hibernica*, which was first collected near Holywood in County Down in 1795. Its flowers closely resemble those of the dog rose. It had become very rare but is now being propagated and will doubtless become available to gardeners. Seed of the second rose, *Rosa bracteata* (Plate 27) was brought from China in 1793. It was collected by a Galway man, Sir George Staunton, who was attached to a British embassy to the Emperor Quianlong. This rose is white and very fragrant but it is not fully hardy. The last one, *Rosa* 'Irish Elegance', was bred by Dicksons of Hawtmark; it is indeed elegant, a very beautiful single-flowered hybrid-tea rose.

The three roses illustrate the structure of the book. The first sixteen paintings are of native Irish species or long-established aliens, like *Fuchsia magellanica* (Plate 12) which makes glorious the hedges of the west of Ireland. Plates 17-29 depict plants found in distant corners of the world or introduced into cultivation in

Europe by Irish botanists and gardeners. Some bear their names, for instance *Crinum moorei* (Plate 23) is called after Dr David Moore, who was Director of the Royal Botanic Gardens, Glasnevin from 1838 to 1879. He received the bulbs of this graceful pale pink lily from South Africa and had some planted in front of the Curvilinear Range of glasshouses, where they first flowered in 1869 and where they may still be seen today. The final group of nineteen paintings shows cultivars associated with Irish nurserymen and gardeners. One of my favourites, *Prunus subhirtella* 'Autumnalis', (Plate 47) is actually a Japanese cultivar but was introduced to Ireland by Daisy Hill Nursery. It flowers twice, in autumn and in spring. I do not particularly like *Pelargonium* 'Koko' (Plate 45) but it is worth mentioning because it represents a new development, a virus-transformed cultivar. *Pelargonium* Petal Streak Agent causes a picotee effect, with pale centres in darker coloured petals. Dr Alan Cassels, who is Professor of Botany at University College Cork, and his associates, have produced a number of picotee-flowered ivy-leaved cultivars, the darkest being 'Koko'. This is the latest event in the story of *Pelargonium* cultivation in Ireland, which goes back to the beginning of the eighteenth century. Three African species were listed in the 1726 catalogue of the Physic Garden of the University of Dublin, Trinity College.

The introduction to *An Irish florilegium II* recounts the history of the five Trinity College botanic gardens which have made many contributions to Irish botany and horticulture, and the volume is especially dedicated to the botanists and gardeners associated with them since the first Physic Garden was established in 1687. It also particularly celebrates the achievements of Daisy Hill Nursery, founded in 1887, and Dickson's Nurseries, which offered their first rose cultivars for sale in that year. The list of plates and index cover both volumes of the Florilegium, so that while each one can stand alone, the second complements the first and the two together form a complete work.

Valerie M. Ingram

DORIS FINDLATER[†]

[edited by E.C. Nelson]

BREEDING GUERNSEY LILIES

[This article was written in 1974 but was never published. I have edited it in very minor ways to make it read more succinctly, but I have retained the spontaneous present tense in which Miss Findlater originally wrote the text. Appendix I is a list of her *Nerine* cultivars with notes derived from her 'stud' book. My thanks is due to Miss Sheila Findlater for giving me free access to her late sister's archives, and for writing Appendix II.

E.C. Nelson, 22 October 1987]

For many years I had hybridised daffodils,¹ but it was hard to produce anything as good as Guy Wilson or Lionel Richardson who were doing it on such a big scale and were so successful.

I had been growing *Nerine bowdenii* in the garden from about 1950 and I found it produced seed very easily. There seemed to be quite a lot of variation in the seedlings produced, but not much variation in the colour — I was not very fond of the rather hard pink. In 1957 I got some bulbs of *Nerine* 'Corusca Major' from Guernsey; it is a good hybrid from the original Guernsey lily (*Nerine sarniensis*), scarlet, with a lovely gold sheen when the light falls directly on it. The grower sent full instructions about how to pot them, only covering the bulbs halfway up and not watering them until growth had started.

I must say this species is inclined to be shy about flowering and one must not be disheartened if all the bulbs do not flower every year. The flowers appear before the leaves in September or October. When the buds appear, you give the pots a good soak by standing them in a bucket of water for an hour or so when they start into growth. The leaves go on growing until about May, when they turn yellow and dry off. Leave the pot in a sunny place in the greenhouse to bake during the summer until the bulbs start into growth again in September. In a very hot year such as this [1974], you could water them about once a month to keep them from shrinking. *Nerine sarniensis* bulbs are not hardy and must be kept in a frost-free greenhouse in the winter.

Now I had material for hybridising; it is quite a simple operation. Take the pollen from the stamen of one flower and put it on the stigma of another flower of a different variety or colour. Some breeders cut the blooms and let them mature in water, but I find they ripen better on the plant. They are inclined to damp off in water, but once they are ripe, they stand quite a lot of hardship. When the seed has developed and is ripe (ready to fall), sow it. I have found it best to sow the seeds on the surface of a pan of John Innes No. 1 compost and anchor them with coarse sand or vermiculite, but not bury the seeds. Cover with glass or cellophane and stand the pan where it is warm (the experts say 70°F, but I found the sitting room or kitchen quite satisfactory). The seeds germinate in a few weeks; they send out a little stem and the bulb forms at the end of it. The seeds of different varieties vary considerably in shape; those of *Nerine bowdenii* are round and quite big and may be green or dark red. In many other varieties, the seeds are green and pear-shaped. I have occasionally forgotten to sow seed, and when I found them months later, they had already formed their little bulbs and all I had to do was plant them in pans.

For the first year you may only have one leaf on the little bulb — the second year, two or perhaps three. I leave them in the pan for two years without disturbing them. Don't let these small seedlings dry off in the summer. The third year I pot up the bigger seedlings singly in small pots or sometimes three in one pot, or well spaced out in a larger pan for another year (still in John

Innes No. 1), always covering the bulb only halfway up. Some grow quickly and make great big bulbs, and a few flower in the fourth year, but they do not generally flower until they have formed six leaves and that may be in the fifth or sixth year.

It was in 1965 that I had my first thrill when two of the seedling bulbs flowered and each produced a new type of flower. One was crimson-rose in colour and the other rose-opal. In 1966, by good luck, the secretary of the newly-formed Nerine Society, Tony Norris, visited Ireland when my seedlings were in flower, and he came to see them and thought they were outstanding. He asked for bulbs of them, which I sent him in 1967. He exhibited a flower of the one I called 'Glensavage Gem' at the London Show in 1968; it got a Preliminary Commendation, and I was congratulated for producing a completely new strain of *Nerine*. That was real encouragement, because it is hard to know how good your seedlings are when you have no others with which to compare them.

I went on crossing some every year with varying success; the Glensavage strain does not bear seeds so it was mostly the scarlet Guernsey lily seeds that I used. About 1969 I got a pot of *Nerine flexuosa* 'Alba' from Mr Ralph Walker, and crossed it with the scarlet Guernsey lily. A new crop of seedlings resulted, the first flowering in 1973. I hoped for a startling red and white striped blossom but so far they have produced rose-flame coloured flowers, the colour of the rose called 'Super Star'. However the petals are more curled and narrower than my other seedlings.

The outdoor species *Nerine bowdenii* which flowered so marvellously this year [1974] and grows freely here is, according to scientists, parthenogenetic — that is, it forms seed without fertilisation of the ovules. In fact you often notice the seed swelling before the flower opens. This means you are unlikely to get a new variety from its seed, but if you use its pollen on another variety, the progeny is likely to have its size and vigour. It was by putting the pollen of the pink *Nerine bowdenii* on the stigma of the scarlet Guernsey lily, that I got the Glensavage hybrids.

I have just been to Holland and visited the nurseries of Mr Wülfinghoff, who grows over half a million nerines for the cut flower market each year. He and I have exchanged bulbs since I showed some at the London Show in 1971 when he admired my flowers and wanted to have bulbs of them. However, as they cut the flowers in bud for the market, there was not a great display of colour except in his experimental house, where he had bulbs from England, Japan and America. I am glad to say one I had sent him was in bud and others had already flowered.

Only this week I was invited to see some nerines in Miss Hetty Micks' greenhouse. She had a wonderful display of a delicate pink variety — about a dozen large pots in full bloom. The romantic story is that an aunt of Miss H. Micks was married about 1860, and the wedding bouquet had some of these flowers in it from which her aunt later grew the seed. The nerines have been in the family ever since.

I hope some of you will try your hand at this fascinating hobby. The appearance of the first bud on a seedling is one of the most exciting moments you can experience — only surpassed by the thrill of seeing a new, really worthwhile variety which you have produced.

Reference

1. D. Findlater (1960). Daffodils from seed for beginners. *Royal Horticultural Society of Ireland Yearbook 1960*: 35-37.

APPENDIX I

MISS DORIS FINDLATER'S *NERINE* CULTIVARS

E. Charles Nelson

No list of these plants has hitherto been published, and many of the names have probably not been published either. Under normal circumstances I would not wish to use unpublished names, but in listing these plants, that cannot be avoided. Miss Findlater numbered her seedlings, but there is no clear statement in her notes of any method. I assume the numbers are merely sequential and do not imply that these seedlings all derive from one batch.

1. 'Glensavage Gem' — flowers claret-rose [021 or geranium lake 20/1]. The stems are tall, to 26 in. and the perianth is $2\frac{1}{4} \times \frac{3}{8}$ in.

'Glensavage Gem' is the only *Nerine* cultivar raised by Miss Findlater to receive an award, when shown by A. Norris of the Nerine Nurseries, Welland, in October 1968, it received a Preliminary Certificate of Commendation. Miss Findlater sent Norris the bulbs in May 1967. The cultivar has been officially named in the *Nerine Society Bulletin* 2 (1967: p. 11). In *Bulletin* 3 (1968: p. 3), Norris remarked that he had high hopes for this cultivar. In a letter to Miss Findlater dated 23 October 1969, he stated, 'I really think that [Glensavage Gem] has a better head than anything else I have got . . .' Earlier, on 10 October 1968, he had congratulated Miss Findlater on 'producing a completely new strain of *Nerine*'. In January 1976, Mr Norris remarked that 'Your "Glensavage Gem" continues to produce one of the best flowers in [my] collection and I like it very much'. The praise continued in a letter dated 22 February 1977 — 'I think "Glensavage Gem" is quite one of the best'. In August 1982, after Doris Findlater's death, Tony Norris paid this tribute to her — '[She] will always be remembered by many who grow *Nerine* for her hybrids — especially 'Glensavage Gem' which is now growing in many lands. I have sent bulbs of this variety to America, Japan, Australia and New Zealand . . . I rate it amongst the best. However it is a pity that there is no *Nerine* that carries her name . . .' It is still in cultivation and is depicted in Walsh and Nelson, *An Irish Florilegium* 2 (1988).

2. 'Glensavage Glory' — flowers rose opal [622/1]; stem to 30 in., leaves c. 13 in. long and 2 in. broad, mid-green; perianth segments $2\frac{1}{4} \times \frac{7}{16}$ ins.

Name not published.

3. 'Silchester Rose' — flowers in late September, leaves mid-green about $7\frac{1}{2}$ in. long, $\frac{3}{4}$ in. across; stem to 20 in., perianth segments $1\frac{1}{2} \times \frac{3}{8}$ in.

No flower colour is given. Mr Norris received this cultivar in December 1971.

4. 'John Fanning' — flowers in late October, leaves dark green, bluish on the back, 12 in. long, to $\frac{3}{4}$ in. across. Flowers full claret-rose [HCC 021 to 21/1], segments $2 \times \frac{3}{8}$ in.

This cultivar was named for the late John Fanning, one-time Assistant Keeper of the National Botanic Gardens, Glasnevin and a well-loved figure in Irish gardening circles. He died in 1971. *Nerine* 'John Fanning' is depicted (with 'Glensavage Gem') in Walsh and Nelson, *An Irish Florilegium* 2 (1988).

5. 'Sheila' — leaves 6 in. long, dark-green, stem to 20 in. Flowers rose-opal with a slightly deeper stripe which is crimson [HCC 22/1 fading 22/2]. Perianth segments $2 \times \frac{3}{8}$ in., early September.

Miss Findlater took this to the Royal Horticultural Society in London in 1971, where it was greatly admired. In particular it impressed H.J. Paul Wülfinghoff of Rijswijk in Holland, who asked to purchase bulbs of it; Miss Findlater sold bulbs to Wülfinghoff Freesia BV in January 1974. She also supplied Wülfinghoff with the Glensavage *Nerine* cultivars no. 1 ('Glensavage Gem') and no. 10 ('Alfino'). It is not known if 'Sheila' is still in cultivation in Holland.

6. 'Glensavage Spider' — leaves 13 in. long \times $1\frac{1}{2}$ in. wide. Flowers carmine [21/1] with all the petals very frilled, $1\frac{1}{2} \times \frac{1}{4}$ in. This flowers in November.

'Glensavage Spider' was listed in the *Nerine Nurseries 1979-1980 Catalogue* (p. 6) where it was described as 'Very late-flowering, at its best in November and December.

The 29 inches stems are amongst the longest in the genus. The flower is most elegant with some 18 . . . florets making a 5½ inches diameter head.' Mr Norris commented in a letter dated 1 December 1971, that 'Glensavage Spider' was ' . . . very close to Tubergen's "Ancilla" '. In 1977 he remarked that 'Glensavage Spider' had done well the previous year and he liked it.

7. Listed as 'Fothergillii' — leaves 9 in. long x ⅞ in. wide, dark green; stem 26 in.; flowers turkey-red [721/2] striped purple; petals waved, iridescent, 2¼ x ⅝ in. Flowering is erratic but about mid-September.
9. 'Kerri Lynn' — leaves dark green tapered, 15½ in. long x 1¼ in. wide. Stem 27 in., flowers rose-opal [022 fading to 022/1], iridescent, marked with rich purple stripe, segments 2¼ x ½ in.

Name not published.

10. 'Alfino' — leaves dark green, 14 in. long x 1¼ in. wide; stem 23-28 in.; flowers crimson [22/1], lighter shade towards the middle and slightly waved, 2 x ⅝ in.

The name 'Alfino' is derived from Alexander Findlater and Co., and was a brand-name for the company's sherry (Alfino). This was one of the bulbs sent to Wülfinghoff Freesia BV.

11. 'Red Currant' — leaves light green, 13-16 in. long, ⅞ in. broad, stems 24-27 in.; flowers currant-red, a good deep colour; petals very waved; 2 x ¾ in.

Name not published.

12. 'Sugar Stick' — leaves grey-green to dark green; stem only 15 in. long, flowers pale pink, striped with dark pink and iridescent, the flowers very waved; perianth segments 1½ x ⅝ in.

Name not published.

13. 'Guy Fawkes' — leaves 9-12 in. long, 1¼ in. broad, light green; stems to 18 in.; flowers carmine-rose [62/1], segments 1½ x ¼ in., frilled, the flowers forming a neat head; very late flowering.

This was named because it first bloomed on Guy Fawkes' day, 5 November. It has been listed several times by the Nerine Nurseries; the first that I am aware of is in the *Autumn 1980 Catalogue* (issued in August of that year). It was illustrated in colour in the *Autumn 1984 Catalogue*. This is one of the most vigorous of the new cultivars raised by Miss Findlater, according to A. Norris, but he also commented that it was ' . . . identical with "Glamour" and "Tardiflora" both of which are old cultivars'. I grow this myself and it flowers well indoors, blooming from early November into December, the flowers lasting a long time.

17. 'Grania' — leaves bluish-green, 14 in. long x 1¼ in. wide; stem to 16½ in.; flowers camellia-rose [622/1].

A late-blooming cultivar rather similar to 'Guy Fawkes', the flowers having small, curled petals. Mr Norris received it in August 1980. I don't think this plant has been released or named.

18. 'Poppy' — flowers poppy-red (light scarlet [16/1] on stem 17 in. tall; segments $1\frac{1}{4}$ x $\frac{3}{8}$ in. Flowers in August and September.

Name not published.

19. 'Fin Machoul' — leaves dark green, 19 in. long x $1\frac{1}{2}$ in. wide; stems 26 in.; flowers carmine-rose [621/2 and 621/1], segments $1\frac{3}{4}$ x $\frac{3}{8}$ in. The flower head is very compact.

Miss Findlater raised this by crossing 'Corusca' with a white-flowered *Nerine* in 1969, and it first flowered on 1 November 1972. It produced two flower spikes from one bulb! She gave it to Ralph Walker of Fernhill, Co. Dublin.

Name not published.

22. 'Tweedledum' — mid-green leaves 9-14 in. long, $1\frac{1}{4}$ in. broad, stems 19-21 in. Flowers camellia-rose [622], segments $1\frac{3}{4}$ x $\frac{1}{4}$ in., very waved.

The parentage is at 19 and 21 above. Name not published.

23. 'Tweedledee' — stems 22 in., flowers carmine-rose [621].

No other details apart from the parentage which is the same as 'Tweedledum'. Name not published.

25. 'Scarlet Ball' — the flowers form a compact head, bright scarlet; stems 14 in., flower segments broad, $3\frac{1}{4}$ x $1\frac{1}{4}$ in.

Name not published.

26. 'Ballerina'.

The name is used in Miss Findlater's notes, but there is no description. Bulbs were given to the National Botanic Gardens, Glasnevin, and to Mr Norris in 1977.

28. 'Skinny Lizzie'.

Another of the 'Corusca' x white-flowered *Nerine* seedlings, but there is no description. Name not published.

29. 'The Giraffe' — the stems are 18-31 in. tall, the leaves mid-green, 13 in. long x $1\frac{1}{4}$ in. wide and the perianth segments 1 x $\frac{1}{4}$ in.

No flower colour is recorded. Name not published.

30. 'Rainbow' — leaves mid-green, $13\frac{1}{2}$ in. long x $1\frac{1}{8}$ in. wide; stem 25 in.; flowers rose striped with purple; segments $2\frac{1}{4}$ x $\frac{3}{8}$ in.

Name not published.

In Miss Findlater's notebooks there are other seedlings listed by numbers, but no names are suggested for these plants. Some were distributed to A. Norris, to the National Botanic Gardens, Glasnevin, to Miss Rita Rutherford, and to Wülfinghoff in the Netherlands. It is not known of the unnamed bulbs ever were named, even if they survived in cultivation.

APPENDIX II

DORIS FINDLATER (1895-1981) – A SHORT BIOGRAPHY

Sheila Findlater

We have always lived with gardens, for my mother was a keen gardener with real 'green fingers', and she encouraged all the family to take an interest in plants and how they grew.

At Alexandra School, which we attended, there used to be a voluntary Holiday Task which took the form of a collection of wild flowers each year, consisting of plants of three or four different families. As everyone getting 80% got a prize, it was an easy way to get a nice book! This made one very observant in looking for the different flowers and one pored over the Revd John's *Flowers of the Field* to help in identification. A holiday away where the soil was different could be very exciting. The result was that one noticed the different flowers and soon learned the families to which they belonged. During Doris' last year in Alexandra College in 1914, she took classes in botany and horticulture given by Canon F.C. Hayes, and at the end of the year she was awarded scholarships in both.

There was always plenty to be done in the garden at home, first, at Melville in Blackrock, then at The Beeches in Glenageary (where there was a large rose garden and a long herbaceous border) and from 1932-1968, at Glensavage in Blackrock. During the early years, Doris was interested in roses, and George Dickson of Hawlmark Nurseries in Newtownards, named a rose for her, but unfortunately, it soon dropped out of circulation. From the classes with Canon Hayes, grew an interest in propagation, and it was probably from his lectures that Doris became keen on hybridisation.

I cannot remember when she started to hybridise daffodils – possibly some of the flowers set seed one year and she sowed them. This was the time when Mr Richardson and Mr Guy Wilson were producing many fine narcissi, and the latter encouraged Doris to hybridise. She showed for many years at the Royal Horticultural Society of Ireland and the South County Dublin Horticultural Society shows, and won many prizes, including some for her seedlings. In 1961 she took some seedlings to the Royal Horticultural Society show in London and won some prizes. Later, she often judged daffodils at various shows.

Doris was a member of the RHSI and she served on the council for a number of years and was Chairman in 1966. She was elected an Honorary Life Member in 1975. She was a member of the South County Dublin Horticultural Society, and served as President for two years. In 1980 she was elected an Honorary Life Member of the Society. She was also a member of the RHS for many years and attended some of the shows when she was in England.

After daffodils, Doris turned her attention to hybridising nerines. This was more difficult in a way, as at that time there were few different bulbs available, especially in Ireland. Most people growing or showing nerines in Britain then, were owners of large gardens with a staff of gardeners. Finally the Nerine Society was formed, Mr Norris being the Secretary. Doris and he began a correspondence which lasted until her death.

During the 1960s he came to Dublin for a business conference and asked if he could come to see her nerines. He was so thrilled with 'Glensavage Gem', that he asked her to give him an offset of the bulb when one was available. This she did, and a year or two later, he showed the flower at an RHS show where it was awarded a Preliminary Certificate. One year she took specimen blooms to the London show, but unfortunately that year there were no competitions, the Nerine Society putting up a combined stand of blooms instead. Some of the Dutch growers took an interest in her bulbs having seen them at this show.

Her nerines were a great source of interest and pleasure to her, and though age and ill health curtailed her activities, she was able to tend and record them until the day of her death.

A HOLIDAY IN NORTH YEMEN

The Yemen Arab Republic lies near the south-western tip of Arabia, separated from the continent of Africa by the narrow entrance to the Red Sea, and many of the plants found there are of African origin, particularly from the Eritrean region. Yemen itself has a wide variety of natural regions and plant communities, as follows:

(a) The coastal lowland (the Tihama), with its high temperatures and humidity – a sub-desert shrubland crossed by wadis where vegetation may be dense with reeds, palms, *Tamarix nilotica*, evergreen trees and small areas of cultivation.

(b) The foothills and escarpment areas, where there are stony plains among ancient volcanic rocks, deep ravines – often terraced – and with deeper wadis draining into the Tihama. Here rainfall is higher, particularly on seaward-facing slopes. Many species of *Acacia*, scattered shrubs and a variety of succulents grow here.

(c) The high mountain areas.

(d) The Eastern desert and the Empty Quarter.

It was in the highest mountain area that our aircraft landed, on the plateau at 2000 m (c. 9,000 ft) where the capital Sana'a is situated, and where our son was teaching in the university. We came in at sunrise over jagged mountain peaks and deeply shadowed ravines, the pinkish rock of the ridges speckled with dark scrub. With no worries about hotels or travel throughout our visit, we were taken in our son's small Suzuki on many trips into the surrounding areas, often far afield.

Four magnificently engineered roads, built in the 1970s, lead from Sana'a, crossing desert and high passes, but on most days we soon left the roads and bumped across trackless rocky desert to find places of special interest. One of these places was Hamill, a ravine where a trickle of water came from the cliff that closed the end of the valley. The water was collected in a small pond from which it could be released for the irrigation of a few terraces where apricot trees were in flower. In a gravelly cavity above the pond, maidenhair ferns grew in profusion, draping the vertical dripping sides in deep shade. Interspersed with these were many young plants of *Primula verticillata*. The real 'old-stagers' grew further out in massive clumps of many crowns crowded together, their very farinaceous leaves, a foot or more in length, conspicuously silvery and with the flower-stalks standing well above the leaves. A ruff of leaf-like bracts surrounds the flower stem below the one or two whorls, candelabra-style, of yellow flowers, all of which seem to be pin-eyed. These flowers were the size of our native primrose, but with a corolla-tube 4 cms long. There was plenty of seed to be collected.

We had first seen this *Primula* when visiting a village much nearer the capital but here they were inaccessible. Across a valley a cliff-face was almost completely yellow and I thought at first that it must be some sort of broom, but looking down on the primroses from much closer we saw them at their finest. The plants here were crowded among tumbled boulders and in deep shade.

The seedlings which I have grown at home since our return have never produced flowers of the size which we saw in the mountains of Yemen partly due, no doubt, to the difference in altitude. The seeds germinated readily and the plants seem very easy to cultivate, flowering at least twice in the year.

Primula verticillata belongs to the Sphondylia section which ranges across the Middle East, but this species is the only one to reach the Arabian peninsula and across into the African continent among the higher mountains of Ethiopia.

North Yemen suffers droughts and we were there at a time when rain had been scarce, but rain may occur at almost any time of the year although there are two rainy seasons, March-April and July-September. The mean monthly temperatures vary from 12°C in December to 25°C in July, the minimum/maximum ranging from -5°C to over 30°C, with considerable differences in day and night temperatures and with occasional frosts occurring in the winter season.

Of the flowering plants of North Yemen (some 2,500 species), about a quarter have their origin in the temperate zone. Some of these may have been introduced by man, for example, the familiar dandelion that was carefully pointed out to me in the (very small) lawn of the British Embassy in Sana'a as being the only one in Arabia!

Yemen has only been opened up to the outside world comparatively recently, having for centuries been led by powerful tribal Shaykhs, who were employed by the Imans in a long history of wars and revolutions. Today, in spite of many localised development projects, life outside the capital remains largely tribal. Villages are isolated from each other by deserts and mountain ranges. The most spectacular villages are perched on mountain peaks and crags, often with a sheer drop of a thousand feet or more to the bottom of the cliff where there may be a trading village with a market that can supply the dwellers on the summit.

Our journeys into the high mountains took us to one of these very ancient and remote fortified mountain-top villages named Kawkaban, which clings to the top of a vast pillar of a rocky mountain, a walled village of great antiquity. We explored the nearby rock plateau, looking down on the clouds – and the eagles – that drifted between us and the trading village of Shebbam far below. The clouds that blow up in the afternoon bring dew to the sparse vegetation and to several cisterns within the walls built to collect water.

Here, in spite of grazing by goats and fat-tailed sheep, the pink flowers of the succulent *Delosperma harazianum* (like a small *Mesembryanthemum*) starred the crevices among rocks and stones; plants I propagated from these are flourishing and flowering in my greenhouse today. Another very small perennial from here, *Craterostigma pumilum*, with ovate leaves and tiny purple and white flowers, reminding me of our familiar eyebright (*Euphrasia*), came home with me, flowered beautifully and then died.

The huge gates in the guarded fortified wall of Kawkaban are shut at dusk and the flocks were being rounded up and brought in when we started down the precipitous corkscrew of a path that descends to Shebbam at the base of the cliff. On the way down we picked a few cuttings of *Buddleja polystachya* that refused to root and died (slowly) at home, and I collected a pocketful of the hips of *Rosa abyssinica* that germinated readily – though the seedlings have not yet flowered.

This was by no means a 'botanising' expedition – there was so much else to see, fascinating birds, insects, lizards and rock formations with intriguing fossils. So we were not always keeping our eyes on the ground and puzzling over the myriads of unknown plants. There is one more that I must mention, however, found also at higher altitudes: *Crinum yemense*, whose large bulbs were set deeply in the stony soil. We were given a bulb from our son's garden and this summer (1987) it flowered magnificently in its pot out-of-doors. The heavily scented white flowers stand out and open wide at dusk, and in the daytime droop and close slightly.

I would be very interested to know if anyone has come across *Primula verticillata* and tried it in cultivation. I know that it is no real treasure of an alpine and would probably not find favour with the real experts, but the 'Yemen Cowslip' has given such pleasure to this complete amateur (having savoured all too briefly the triumph of the 'plant collector'), that I feel that it deserves a write-up.

SOURCES:

Cain, R.B. (1967). *The Genus Primula*. Alpine Garden Society.

Al-Hubaishi, A. and Müller-Hohenstein, K. (1984). *An Introduction to the Vegetation of Yemen*. Eschborn.

THE PROPAGATION OF ENDANGERED PLANTS IN MAURITIUS

The island of Mauritius lies in the western Indian Ocean some 900 km east of Madagascar. Covering 1865 sq km and of volcanic origin, this small mountainous island has about 280 taxa of endemic flowering plants, most of which are 'Red Data Book' species. Following IUCN guidelines (Lucas and Synge 1978) about 80 taxa may be listed as endangered and a further 30 are probably extinct (Strahm, unpub.).

Before colonisation Mauritius was largely covered with evergreen forests composed of a wide variety of endemic trees including such species as the black ebony (*Diospyros tessellaria* Poiret), the makak (*Mimusops petiolaris* (DC.) Dubard) and bois d'Olivé (*Elaeodendron orientale* Jacq.) in the lowlands, and manglier vert (*Sideroxylon cinereum* Lam.), tambalacoque (*S. grandiflorum* A.DC.), colophane (*Canarium paniculatum* (Lam.) Benth.) and two species of makak (*M. erythroxylon* DC., *M. maxima* (Poiret) Vaughan) in the highlands. These forests were rapidly cleared and exploited for their timber during the centuries that followed the island's discovery. Today few areas of natural vegetation are left and those that do survive are under constant pressure from invasion by exotic weeds such as *Syzygium jambos* (L.) Alston, *Flacourtia indica* (Burm.f.) Merrill, *Ligustrum robustum* Blume, *Psidium cattleianum* Sabine and *Ravenala madagascarensis* Sonnerat which prevent regeneration. Further damage is caused to the remnant forests by illegal woodcutting – Mauritius has an acute shortage of fuelwood (Montalembert and Clément 1983) – and there is fruit, flower and seedling predation by introduced animals such as Rusa deer (*Cervus timorensis*), pigs (*Sus scrofa*) and macaque monkeys (*Macaca fascicularis*).

In recent years the World Wildlife Fund (WWF) and the International Union for Conservation of Nature and Natural Resources (IUCN) have sponsored Strahm to carry out an assessment of plant conservation needs in Mauritius and an investigation of the current status of each endangered Mauritian plant taxon. During the course of this work, it became clear that the rescue of many species was urgently required and that this could best be done through propagation.

Some exploratory propagation, mainly by seed, had previously been carried out by the Forestry Service in Mauritius and endemic plants may be seen in the grounds of the Forestry Headquarters at Curepipe. Private gardeners in Mauritius have also been interested in growing rare endemic plants in their gardens and several endemic palm species such as *Hyophorbe lagenicaulis* (L.H. Bailey) H.E. Moore, *Latania loddigesii* Mart. and *Dictyosperma album* (Bory) Scheff., are commonly used in municipal planting and as a crop for their palm hearts. In order to extend this propagation effort (as part of a joint programme between the Mauritian Government and international conservation bodies for developing an integrated conservation programme in Mauritius) Wyse Jackson, Cronk and Parnell visited Mauritius between 15 June and 15 September 1985. The primary aim of the visit was to assist those already involved in the project (Strahm and the Mauritius Conservator of Forests, A.W. Owadally) in developing a lasting and large-scale propagation initiative.

Propagation Facility

On our arrival in Mauritius, work began on the construction of a suitable shade house in which propagation equipment could be installed and young plants raised. The Conservator of Forests kindly made a ¼ acre plot available to us and generously provided labour and construction materials. A site was chosen where mains water and electricity were easily available with only minimal expansions of existing lines. The facility was constructed in the grounds of the Forestry Service nursery at Curepipe.

The location was suitable for propagation work as the region has a cool climate with high precipitation and humidity.

The propagation unit was 3 x 4 m in area with a 2.75 m high pitched roof. The main supporting timbers were of treated 23 cm *Araucaria* trunks with 7.5 cm cross-braces of the same species. The main supporting timbers were covered with a lattice framework of split giant bamboo. Over this framework we placed a covering of translucent woven plastic sheeting: woven plastic was stronger than the sheet plastic available and also allows greater ventilation. The sides of the unit were covered with the woven plastic, except the rear wall, which backed onto a hedge and was left open to facilitate further ventilation, and the top 1 m of the front wall which we covered with clear plastic to give extra illumination to the mist bench. All the plastic was held in place by a combination of 2.5 cm galvanised tacks and vertical or horizontal lathes of bamboo. Cut palm leaves (*Raphia farinifera* (Gaertner) Hylander) were used to weigh down the roof. The floor was covered with crushed coral rubble. 22.5 cm x 2.5 cm planks were fixed lengthwise along the base of the unit at ground level to prevent entry by rats, mice, snails and other pests. Plate 1 shows the completed propagation facility.

The mist bench constructed inside was 1 x 3.2 m in size, built of 5 cm thick, treated *Araucaria* planks. The base was lined with a plastic sheet into which were placed, in order, 5 cm of washed sea sand, heating cables and controlling thermostat, piping for the mist equipment and 2 cm more sand. The bench was filled to within 2 cm of the top with a variety of rooting materials: washed coral sea

Table 1. Species from which cuttings were taken for propagation in Mauritius, June to September, 1985.

Family	Species	Locality
Annonaceae	<i>Xylopia amplexicaulis</i> (Lam.) Baillon	Perrier nature reserve
Araliaceae	<i>Polyscias gracilis</i> Marais	Mondrain nature reserve
Brexiaceae	<i>Roussea simplex</i> J.E. Smith	Grand Bassin
Campanulaceae	<i>Nesocodon mauritianus</i> (L. Richardson) Thulin	Cascade 500 Pieds
Compositae	<i>Helichrysum</i> cf. <i>yuccaefolium</i> Lam.	Plaine Champagne
	<i>Vernonia populifolia</i> Spreng.	Le Morne
Cunoniaceae	<i>Weinmannia tinctoria</i> J.E. Smith	Nr Cascade 500 Pieds
Ebenaceae	<i>Diospyros egrettarum</i> L. Richardson	Ile aux Aigrettes
	<i>D. hemiteles</i> L. Richardson	Magenta
Elaeocarpaceae	<i>Elaeocarpus bojeri</i> R.E. Vaughan	Grand Bassin
Euphorbiaceae	<i>Claoxylon linostachys</i> Baillon	
	subsp. <i>linostachys</i>	Macchabée
	subsp. <i>brachyphyllum</i> (Croizat) Coode	Pétrin nature reserve
	<i>Croton vaughanii</i> Croizat	River reserve Cogliano
	<i>Drypetes caustica</i> (Cordem.) Airy Shaw	Magenta
Flacourtiaceae	<i>Erythrospermum monticolum</i> Thouars	Cascade 500 Pieds
Leguminosae	<i>Albizia vaughanii</i> Brenan	Above Tamarin Falls
Lythraceae	<i>Tetrataxis salicifolia</i> (Tul.) Baker	Cascade 500 Pieds
Malvaceae	<i>Hibiscus boryanus</i> DC.	Rivière des Aigrettes nr Tamarin Falls
Monimiaceae	<i>Monimia ovalifolia</i> Thouars	Grand Bassin
	<i>Tambourissa tau</i> D. Lorence	River reserve Cogliano
Moraceae	<i>Ficus lateriflora</i> Vahl	Rivulet Cap St Martin
Myrsinaceae	<i>Embelia micrantha</i> (A.DC.) A.DC.	Brise Fer
Oleaceae	<i>Olax psittacorum</i> (Lam.) Vahl	Black River gorges
Oleaceae	<i>Chionanthus boutonii</i> A.J. Scott	Perrier nature reserve
Rubiaceae	<i>Coffea vaughanii</i> Leroy	Magenta
	<i>Gaertnera</i> cf. <i>longifolia</i> Bojer	Nr. Cascade 500 Pieds
Rutaceae	<i>Euodia obtusifolia</i> DC. var. 1	Pétrin nature reserve
	var. 2	River reserve Cogliano
Sapotaceae	<i>Sideroxylon boutonianum</i> DC.	Ile aux Aigrettes
Sterculiaceae	<i>Dombeya mauritiana</i> Friedmann	Magenta
	<i>Trochetia blackburniana</i> Bojer	Nr Plaine Champagne
	<i>T. boutoniana</i> Friedmann	Le Morne
	<i>T. triflora</i> DC.	Trou aux Cerfs

(see Figure 1 for localities in Mauritius)

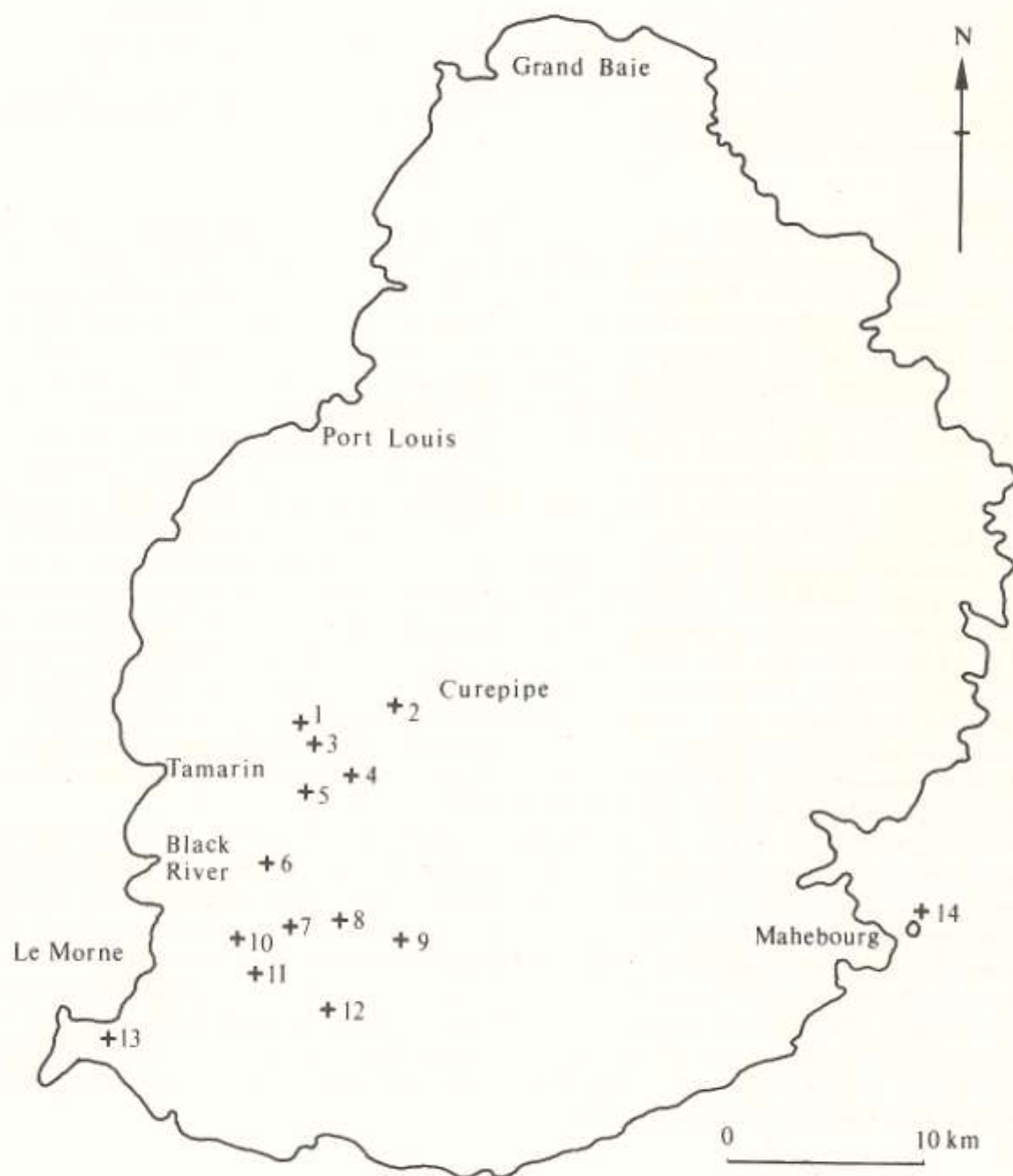


Figure 1. Mauritius showing locations from which rare plant cuttings were obtained.

KEY:

- | | |
|------------------|-----------------------|
| 1 Magenta | 8 Pétrin |
| 2 Trou aux Cerfs | 9 Grand Bassin |
| 3 Mondrain | 10 Black River gorges |
| 4 Perrier | 11 Plaine Champagne |
| 5 Tamarin Falls | 12 Cascade 500 Pieds |
| 6 Brise Fer | 13 Le Morne |
| 7 Macchabée | 14 Ile aux Aigrettes |
- River reserve Cogliano is situated just west of Perrier and Rivulet Cap St Martin is east of Tamarin Falls.

sand, fine grade perlite, and acid sand made from crushed basaltic rock. Using further *Araucaria* planks a small work bench was erected beside the mist bench. Electricity and water connections were run to the facility from a nearby Forestry Department office. An aim of the expedition was to construct the facility using local materials wherever possible in order to reduce the cost and also to create a design that could be easily reproduced and constructed in other situations without having to import expensive materials unobtainable locally.

Plant Propagation

On completion of the propagation facility the collection of plant material began. A target list of about 30 species was made, based on the field knowledge of Strahm, coupled with the suggestions of the Conservator of Forests. Preference was given to those plants not in cultivation in botanic gardens at present (as listed by the IUCN Botanic Gardens Conservation Co-ordinating Body in 1984) and to those endemic to Mauritius and rare or absent from the neighbouring islands of Réunion and Rodrigues. Whenever possible, seed samples were also collected. The target species (Table 1) can be regarded as amongst the rarest native plants of Mauritius. Several were known only from a handful of individuals, most in vulnerable localities (see Fig. 1). In many cases a mixture of softwood, semi-hardwood and hardwood cuttings were taken. The number of cuttings was generally determined by the size and health of the parent plants. Some were small, old and without much vigour. From these, few if any cuttings could be taken. The cuttings were returned to the Curepipe facility the same day in polythene bags or in a portable ice-box, recut, treated with various rooting induction hormones and inserted into the mist bench; they were then left for periods ranging from two weeks to several months in the hope that they would root. Although many Mauritian plants grow in acid soils that are low in or free from calcium carbonate, most successful rooting occurred in the calcareous sea sand. This is almost certainly attributable to its texture and good water retention properties. The acid basaltic sand was too coarse and free draining and few cuttings rooted in it. Perlite was more successful but tended to over-heat with the heating cables below and thus damage cuttings. Most cuttings were transferred to coral sea sand and in Table 2 no difference is shown between cuttings initially inserted in sand and other media.

On rooting, the young cuttings were transferred to pots of soil and grown on in the propagation house until they had become fully established. The Curepipe Forestry Department soil was a very poor medium for plant growth. It was a heavy clay-rich soil, low in humus, and was thus unsuitable for potting on delicate recently rooted cuttings. Small quantities of a humus-rich woodland soil were collected near Yemen, in south-east Mauritius. When sieved and sterilized in a domestic oven at a temperature of approximately 180°C for one hour this soil proved to be very suitable for potting and was combined with rock-sand and fine grade perlite in varying proportions to give a compost of light texture, with free drainage but good water retention properties. There was no readily available supply of humus in Mauritius; home-produced composts tend to give rise to fungal infections in young plants. Plate 2 shows the mist bench and cuttings.

Results

The results of rooting attempts for 35 species is shown in Table 2. Some details of the type of cuttings used are also indicated as well as the collection date and hormone treatments tried. Localities from which each was collected are shown in Table 1. Obviously if unlimited plant material had been available it would have been possible to approach the propagation of many of these species in a more ordered and scientific way using controls and direct comparisons between treatments. However, due to an acute shortage of material in most cases it was necessary to make an intuitive guess as to what the best possible propagation method was likely to be and include the majority of cuttings under that treatment. At an early stage in the project, the water supply failed for two days and a number of cuttings were damaged by drought. While a note is given of those which suffered most by this mishap, it is impossible to be more precise as to the effects on each individual species (Table 2).

Many horticulturists today rely less on mist equipment for rooting cuttings; cuttings are merely inserted in heated sand benches under plastic sheeting. We chose the more elaborate method of mist propagation because it acted as an automatic watering system and so the propagation bench could be ignored for several days without risk of plants or cuttings drying out. We were also of the opinion

Table 2. The propagation of rare Mauritius native plants: the rooting of cuttings, success and failure rates.

Species	A	B	C	D	E	F
<i>Xylopia amplexicaulis</i>	14-7	9	Syn1:1	5	0/9	0%
	14-7	1	Syn1:1	6	0/1	0%
	14-7	4	Ser3	5	0/4	0%
<i>Polyscias gracilis</i>	15-7	6	Ser3	5	0/6	0%
	15-7	5	Syn1:1	5	1/5	20%
<i>Roussea simplex</i>	12-7	4	Syn1:1	5	0/4	0%
	1-9	4	SynF	5	0/4	0%
<i>Nesocodon mauritianus</i>	2-9	1	Syn3:1	1	0/1	0%
	2-9	1	Syn3:1	5	0/1	0%
	3-9	1	Syn3:1	5	0/1	0%
	3-9	2	Syn3:1	1	0/2	0%
<i>Helichrysum cf. yuccaefolium</i>	20-7	5	Ser2	5	0/5	0%
<i>Vernonia populifolia</i>	26-7	4	SynF	3	1/4	25%
<i>Weinmannia tinctoria</i>	11-7	7	Syn5:1	5	0/7	0%*
	11-7	8	Ser2	6	0/8	0%*
<i>Diospyros egyptiarum</i>	24-8	11	SynF	5	7/11	64%
<i>D. hemiteles</i>	9-7	18	Syn1:1	5	0/18	0%
	9-7	10	Ser3	5	0/10	0%
	30-7	16	SynF	3,5	0/16	0%
	30-7	11	SynF	6	0/11	0%
<i>Elaeocarpus bojeri</i>	12-7	2	Ser3	5	1/2	50%
	12-7	2	Ser1	5	0/2	0%
	12-7	5	Syn1:1	5	5/5	100%
	1-9	13	SynF	5	5/13	38%
<i>Claoxylon linostachys</i> subsp. <i>linostachys</i>	12-7	8	Syn1:1	1	2/8	25%
	12-7	3	Ser3	1	1/3	33%
subsp. <i>brachyphyllum</i>	12-7	5	Syn1:1	5	3/5	60%
<i>Croton vauhanii</i>	14-7	7	Syn1:1	5	1/17	6%
	14-7	5	Syn1:1	1		
	14-7	5	Syn1:1	6		
	14-7	5	Ser2	3		
	10-9	10	Syn1:1	5	0/10	0%
	10-9	9	SynF	5	0/9	0%
<i>Drypetes caustica</i>	9-7	32	Syn1:1	3, 4, 5	1/32	3%
<i>Erythrospermum monticolum</i>	11-7	2	Syn5:1	5	0/2	0%
<i>Albizia vauhanii</i>	15-7	39	Syn1:1	1, 3, 5	0/39	0%*
<i>Tetrataxis salicifolia</i>	11-7	19	Syn5:1	3	2/19	11%
	11-7	5	None	3	0/5	0%
	11-7	13	Ser3	3	3/13	23%
	3-9	71	Syn3:1	1, 3, 5	0/71	0%
	3-9	50	SynF	1, 3, 5	11/50	22%
<i>Hibiscus boryanus</i>	12-7	5	Syn1:1	5	5/5	100%
	10-9	21	Syn1:1	5	0/21	0%
<i>Monimia ovalifolia</i>	12-7	5	Ser3	5	1/5	20%
	12-7	1	Ser1	1	0/1	0%
<i>Tambourissa tau</i>	10-9	1	SynF	5	1/1	100%
<i>Ficus lateriflora</i>	14-7	7	Syn1:1	1	0/7	0%
	14-7	17	Syn1:1	3	0/17	0%
	14-7	5	Syn1:1	6	2/5	40%
	14-7	14	Syn1:1	3	0/14	0%
<i>Embelia micrantha</i>	12-7	17	Syn1:1	6	4/33	13%
	12-7	6	Syn1:1	3		
	12-7	8	Syn1:1	4		
	12-7	2	Syn1:1	1		
	12-7	9	Ser2	1	6/9	66%

Table 2. (continued)

Species	A	B	C	D	E	F
<i>Olex psittacorum</i>	3-9	50±	SynF	1, 3, 5	0/50	0%
<i>Chionanthus boutonii</i>	14-7	9	Syn1:1	5	0/9	0%
	14-7	7	Ser1	1	3/7	43%
<i>Coffea vaughanii</i>	9-7	28	Syn1:1	3	6/28	21%
	29-8	72	SynF	3	52/72	72%
<i>Gaertnera cf. longifolia</i>	11-7	3	Syn5:1	5	0/3	0%*
<i>Euodia obtusifolia</i> var. 1	10-9	3	SynF	5	0/3	0%
var. 2	12-7	4	Ser3	5	0/4	0%
<i>Sideroxylon boutonianum</i>	29-8	10	SynF	3, 5	1/10	— **
<i>Dombeya mauritiana</i>	9-7	16	Syn9:1	1	0/16	0%
	9-7	20	Ser1	1	0/20	0%
	9-7	6	Ser2	3	0/6	0%
	9-7	20	Syn1:1	6	0/20	0%
	9-7	5	Syn1:1	4	0/5	0%
	30-7	22	SynF	6	0/22	0%
<i>Trochetia blackburniana</i>	20-7	4	Ser2	3	0/4	0%
<i>T. boutoniana</i>	26-7	6	SynF	3	3/6	50%
<i>T. triflora</i>	9-7	8	Syn1:1	5	0/8	0%

A = Date collected

B = Number of cuttings taken

C = Hormone rooting treatment used: Ser1 = Seradix 1. (Active constituent is 4-indol-3ylbutyric acid)

Ser2 = Seradix 2.

Ser3 = Seradix 3.

Syn1:1 = Synergol to water in varying proportions.

SynF = Full strength Synergol.

(Synergol contains potassium salt of indole butyric acid and the potassium salt of Naphthyl Acetic acid (K-NAA) + trace elements and Boron; also fungicide.)

D = Type of cutting used:

1 = leafy softwood

2 = bare softwood

3 = leafy semi-hardwood

4 = bare semi-hardwood

5 = leafy hardwood

6 = bare hardwood

E = Proportion of cuttings rooted of total number of cuttings taken

F = Percentage of cuttings rooted

* = Cuttings damaged when mist unit water supply failed

** = 7 cuttings are still alive but unrooted in the mist bench at the time of writing (December 1986)

Time taken for cuttings to root:

Most cuttings rooted within three months. The following species were slower and took up to 9 months or more to root:

*Polyscias gracilis**Chionanthus boutonii**Drypetes caustica**Sideroxylon boutonianum*

that there was a reduced risk of fungal infections to the cuttings using this method.

On completion of our expedition in September 1985, many of the species had only just begun to root or still showed no signs of activity. The propagation facility was thus left in the care of Strahm, M.E. Dulloo (Assistant Conservator of Forests) and the Forestry Department staff who continued to monitor the rooting success of each species and pot up rooted cuttings as necessary. Since that time cuttings of many other endangered Mauritian native plants have been propagated using the facility constructed during the expedition. The results of these later trials are not included in this paper. A small collection of rooted cuttings were returned with the expedition members to Dublin in September 1985 using a method of transport described in Wyse Jackson *et al.* (1987). This collection will be used for further propagation so that plants can be distributed to other botanic gardens and to prevent further depletion of wild stocks of such critically endangered species.

Table 3. Mauritian native plants in cultivation at the Trinity College Dublin Botanic Gardens, December 1986.

Family	Species	Grown from:
Amoryllidaceae	<i>Crinum mauritianum</i> Lodd.	Seed
Campanulaceae	<i>Nesocodon mauritianus</i> (I. Richardson) Thulin	Seed
Celastraceae	<i>Elaeodendron orientale</i> Jacq.	Seedling
Compositae	<i>Faujasia pinifolia</i> Cass.	Seed
	<i>Vernonia populifolia</i> Spreng.	Cutting
Ebenaceae	<i>Diospyros egrettarum</i> I. Richardson	Seed
	<i>D. tessellaria</i> Poir.	Seed
Elaeocarpaceae	<i>Elaeocarpus bojeri</i> R.E. Vaughan	Cutting
Erythroxylaceae	<i>Erythroxylon sideroxyloides</i> Lam.	Seedling
Euphorbiaceae	<i>Antidesma madagascariense</i> Lam.	Seed
	<i>Claoxylon linostachys</i> Baillon	
	subsp. <i>linostachys</i>	Cutting
	subsp. <i>brachyphyllum</i> (Croizat) Coode	Cutting
Flacourtiaceae	<i>Ludia mauritianum</i> J.F. Gmelin	Seedling
Liliaceae	<i>Dianella ensifolia</i> (L.) DC.	Seed
	<i>Dracaena concinna</i> Kunth	Seedling
Lythraceae	<i>Tetrataxis salicifolia</i> (Tul.) Baker	Cutting & seed
Malvaceae	<i>Hibiscus boryanum</i> DC.	Cutting
Meliaceae	<i>Turraea casimiriana</i> Harms	Seedling
Moraceae	<i>Ficus lateriflora</i> Vahl	Cutting
	<i>F. rubra</i> Vahl	Seed
Myrsinaceae	<i>Embelia micrantha</i> (A.DC.) A.DC.	Cutting
Ochnaceae	<i>Ochna mauritiana</i> Lam.	Seedling
Orchidaceae	<i>Oeoniella aphrodite</i> (Balf.f. & S. Moore) Schlechter	Plant
Palmaceae	<i>Dictyosperma album</i> (Bory) Scheff.	Seed
Pandanaceae	<i>Pandanus eydouxia</i> Balf.f.	Seedling
Pittosporaceae	<i>Pittosporum senacia</i> Putterl. subsp. <i>senacia</i>	Seed
Rubiaceae	<i>Coffea mauritiana</i> Lam.	Seed
	<i>C. vaughanii</i> Leroy	Cutting
	<i>Myonima obovata</i> Lam.	Seed
	<i>M. violacea</i> (Lam.) Verdc.	Seed
	<i>Tarenna borbonica</i> (E.G. & A. Henderson) Verdc.	Seed
Sapotaceae	<i>Mimusops petiolaris</i> (DC.) Dubard	Seed
	<i>Sideroxylon cinereum</i> Lam.	Seed
Sterculiaceae	<i>Dombeya acutangula</i> Cav. subsp. <i>rosea</i> Friedmann	Cutting
	<i>Trochetia boutoniana</i> Friedmann	Cutting

A list of Mauritian native plants cultivated at the Trinity College Dublin Botanic Gardens (in December 1986) is given in Table 3. The majority of the rooted cuttings remained in Mauritius and are being grown on in pots until such sizes are reached that they can safely be transplanted to the wild into protected nature reserves. A number of such protected reserves have already been established (e.g. Mondrain, Perrier and Ile aux Aigrettes) and in some of them there is a permanently employed guardian to prevent illegal wood-cutting and to 'garden' the reserve by removing exotic invading weeds and their seedlings. The transplanting of nursery-grown endemic plants back to the wild has been previously tried by the Mauritian Forestry Service at Macchabée in south-west Mauritius so far with only limited success. However with greater after-care and selectivity of species planted, coupled with the protection afforded by permanent guardians, it is hoped that further transplants back to the wild will have considerably more success in the future. Wyse Jackson *et al.* (1986a) outline the requirements for future development of the rare Mauritian plant propagation programme. Tables 4 and 5 list species which were successfully propagated by cuttings and where propagation attempts by cuttings failed.

Discussion

The shade house and mist bench constructed by the expedition functioned as a successful propagation unit. It was built in about two weeks with local labour, was not costly to construct and was capable of standing up to heavy summer rains and winds. At the time of writing (December 1986) the unit is still functioning as well as it did just after its construction. The design used could

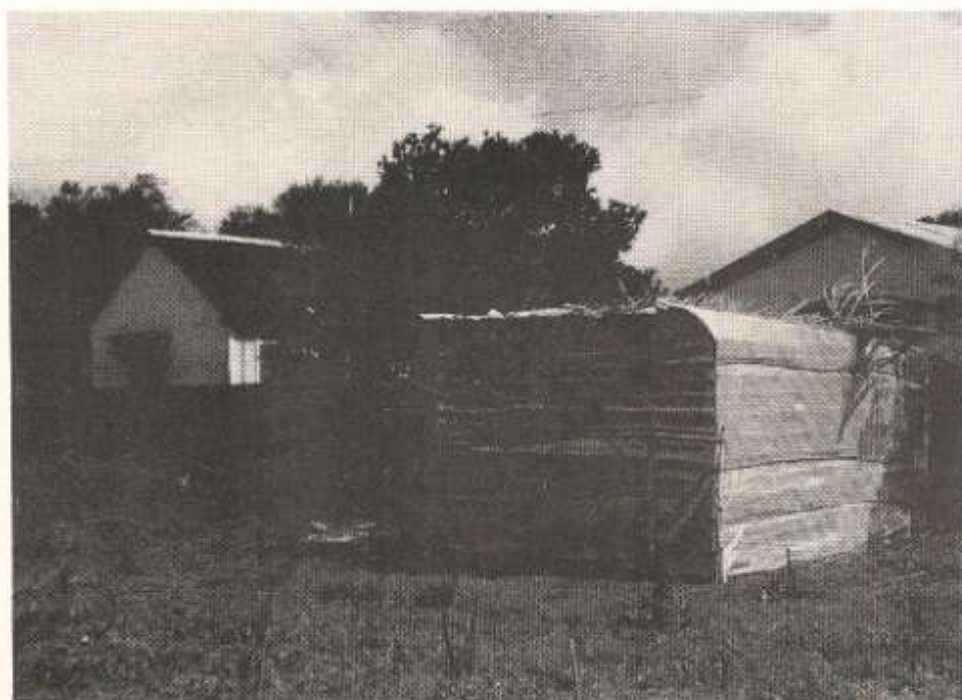


Plate 1. A shade house for plant propagation that was constructed by members of the expedition mainly using local materials and covered in woven plastic sheeting.

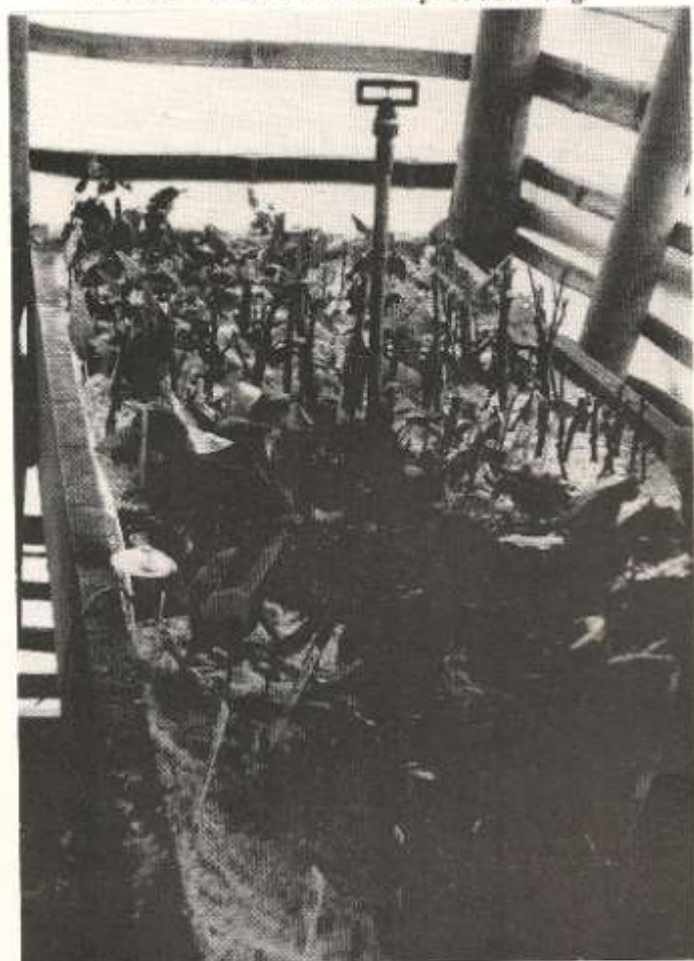


Plate 2. The mist bench contained within the shade house with rare plant cuttings being rooted in coral sand.



Plate 3. Electric cables provided bottom heat for plant cuttings in the mist bench, regulated by the soil thermostat shown.

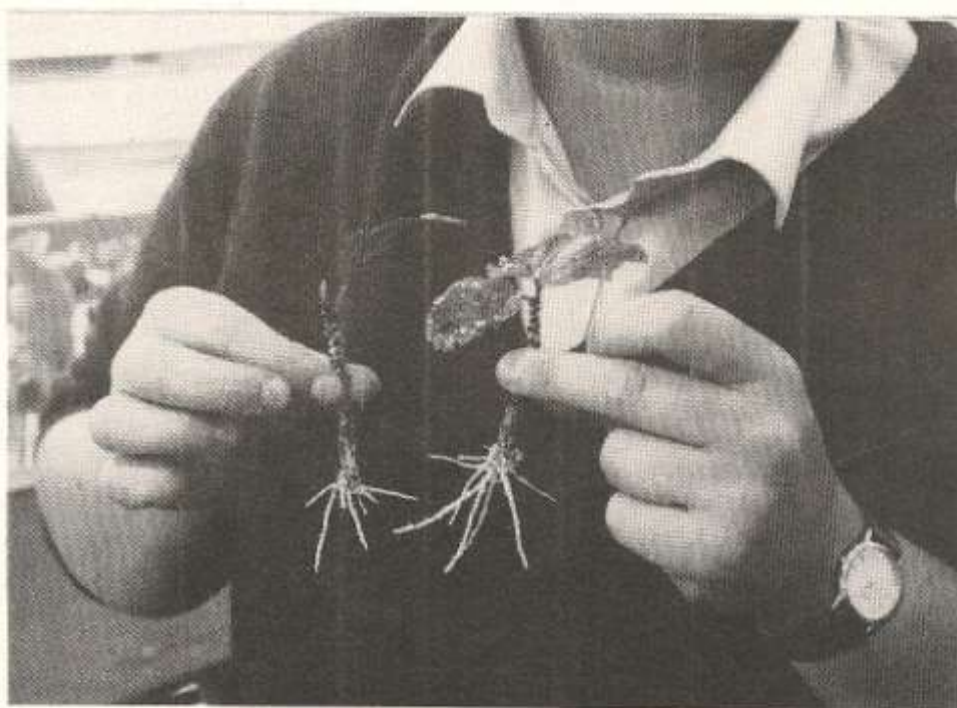


Plate 4. Recently rooted cuttings of *Hibiscus boryanus*.

Table 4. Species rooted by the expedition.

<i>Polyscias gracilis</i>	<i>Hibiscus boryanus</i>
<i>Vernonia populifolia</i>	<i>Monimia ovalifolia</i>
<i>Diospyros egrettarum</i>	<i>Tambourissa tau</i>
<i>Elaeocarpus bojeri</i>	<i>Embelia micrantha</i>
<i>Claoxylon linostachys</i>	<i>Ficus lateriflora</i>
subsp. <i>linostachys</i>	<i>Chionanthus boutonii</i>
subsp. <i>brachyphyllum</i>	<i>Coffea vaughanii</i>
<i>Croton vaughanii</i>	<i>Sideroxylon boutonianum</i>
<i>Drypetes caustica</i>	<i>Trochetia boutoniana</i>
<i>Tetrataxis salicifolia</i>	

Table 5. Species where propagation by cuttings failed.

<i>Rousseia simplex</i>	<i>Olex psittacorum</i>
<i>Nesocodon mauritanus</i>	<i>Gaertnera cf. longifolia</i>
<i>Helichrysum cf. yuccaefolium</i>	<i>Euodia obtusifolia</i> vars.
<i>Weinmannia tinctoria</i>	<i>Dombeya mauritiana</i> *
<i>Diospyros hemiteles</i> *	<i>Trochetia blackburniana</i>
<i>Erythrospermum monticolum</i>	<i>T. triflora</i>
<i>Albizia vaughanii</i>	<i>Xylopia amplexicaulis</i>

*Rooted subsequently on another occasion after the departure of the expedition.

be appropriate for other situations where rapid low-cost propagation of rare tropical species is required. If a mains electricity source is not available, the heating cables of the mist bench could be supplied from a petrol-powered generator or the mist bench itself by a 12-volt battery. A difficulty encountered in the operation of the mist unit was that fluctuations in mains water pressure, especially during daylight hours, occasionally caused the bench to dry out. If time had allowed, the construction of a gravity feed water-tower would have overcome this problem.

A total of 17 species were rooted by the methods outlined. The majority of these had never been propagated before and few guidelines on the most likely means of propagating them were available. Generally very low percentage rooting of cuttings was obtained and often all the cuttings tried died without rooting. In many cases only a particular type of cutting would root; sometimes semi-hardwood, sometimes softwood but most frequently leafy hardwood cuttings. Despite the low success rate, it was significant that a high proportion of the species attempted were rooted so that at least some young individuals of these rarest Mauritian endemic plants will be safely in cultivation. Propagation by cuttings failed in fourteen cases. However in one case (*Nesocodon mauritanus*) it was later propagated by seed. Seed may also be available in the future of such species as *Albizia vaughanii*, *Erythrospermum monticolum*, *Trochetia blackburniana* and *T. triflora* from which they can be propagated. Since the time of the expedition several species which failed to root have been attempted again, this time successfully, including *Dombeya mauritiana* and *Diospyros hemiteles*. Non-Mauritian relatives of several species (e.g. *Weinmannia tinctoria* and *Olex psittacorum*) are known to root from cuttings (Chittenden 1951) and so it is possible that future attempts to propagate these species by cuttings may also be successful.

Wyse Jackson *et al.* (1986b) outline the extreme rarity of many of the species that have been propagated during this work. Several are known only from a handful of individuals at a single vulnerable site (*Claoxylon linostachys* subsp. *linostachys* and subsp. *brachyphyllum*, *Elaeocarpus bojeri*, *Croton vaughanii* and *Trochetia boutoniana*); several others may have important timber uses (*Diospyros egrettarum* and *Sideroxylon boutonianum*) and at least one, *Embelia micrantha*, has a local importance in herbal medicines and has been used to treat renal disorders. While it must be recognised that the work carried out during this expedition was merely a small beginning and pilot project, we hope that further large-scale work on the propagation of native Mauritian plants will continue, to safeguard areas of surviving native forest and to make available large numbers of young plants so that mixed plantations of native species can be re-established on areas of denuded landscape. It will also ensure that no more endemic Mauritian plants become extinct.

Acknowledgements

The authors wish to thank all those who generously gave donations towards the expedition funds and made it possible to carry out this work. We are also grateful to Silvaperl Products Ltd. who donated horticultural supplies for the project; to the staff of the Trinity College Dublin Botanic Gardens; to the Mauritius Wildlife Appeal Fund for help with transport in Mauritius and to the World Wildlife Fund International which supports Wendy Strahm. Our thanks are also due to Mr A.W. Owadally, the Mauritius Conservator of Forests, for his advice and assistance and to the Mauritius Forestry Service nursery staff for building materials and help with construction work. Without their help this work could not have taken place.

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Book Review

Mary GRIERSON. *An English florilegium. Flowers, trees, shrubs, fruits, herbs, the Tradescant legacy* [introduction by W.T. Stearn, notes by C.D. Brickell]. 1987. pp. 240; illustrated [52 plates]. London: Thames & Hudson. ISBN 0-500-23486-8.

Tradescantia virginiana, the blue and white forms, decorates the dust-jacket of this handsome book which is a tribute to the Tradescants, father and son, who, between about 1600 and 1662, enriched the horticultural palette of England and therefore every other part of western Europe. Mary Grierson has depicted 150 plants associated with the pair, including the spider-worts which were named *Tradescantia* for them. Her style of paintings is more formal, less flowing than I like, but the paintings are meticulous, elegant, and each page is a marvellous design.

Not all the plants in *An English florilegium* are exotic species — plate 1 (for example) has cuckoo-pint (*Arum maculatum*) and cowslip (*Primula veris*), and plate 21 is a delightful combination of orchids (*Dactylorhiza maculata*, *Listera ovata*, *Ophrys apifera*) with quaking grass (*Brisa media*) and salad burnet (*Sanguisorba minor*). This latter plate also includes a blue butterfly, and butterflies appear in half-a-dozen of the paintings, while a cheeky firecrest lurks among the twigs of European larch (*Larix decidua*) in plate 35.

The introduction by Professor Stearn sets the Tradescants' work in context, detailing their gardens, introductions and their other collections. Chris Brickell wrote the texts which accompany the plates and in these essays there are frequent references to the Tradescants and their contemporaries, the herbalists John Gerard and John Parkinson.

Obviously the concept of this sassenach anthology owes much to its precursor which depicted Irish wild and garden plants, but be warned that it is not an identical volume, forming a set with the Hibernian one, because it is 1 cm shorter and 1.5 cm narrower. The style of the artwork, as I have noted, is also different; several plates include stippled drawings of knot-gardens. Stipple and sepia wash are often used to complement the watercolour (for example, to show mature foliage of the walnut). Woodcuts, taken from contemporary books, have been reproduced to illustrate the introduction.

Those comments are not criticism of this superb work, a redoubtable younger analogue for *An Irish Florilegium*, and a worthy tribute to two men whose enthusiasm and acquisitive desires did so much to enliven gardening more than three centuries ago.

E.C. Nelson

A NOTE ON THE PROPAGATION OF *TILIA* SPECIES

Mary Forrest has described two of the species of lime growing at Birr Castle, *Tilia henryana* and *T. chingiana* (Moorea 2 (1983): 1-6). In view of their rarity in cultivation, Lord Rosse was anxious that they should be propagated, and kindly supplied scion material of these and of *T. caucasica* for grafting at the Kinsealy Research Centre of An Foras Talúntais. It may be of interest to describe the procedure.

The rootstocks used were three-year-old seedlings of *Tilia cordata*, lifted from the open ground in February 1987. These rootstocks were bare-root grafted; grafting was carried out on the glasshouse bench, the plants being potted up immediately after the grafting process. The side-graft method was employed. After cutting back the rootstock to leave about 7.5 cm of the stem above ground level, a downward slice, 3-4 cm long, was made at the side of the stem, and left attached at its base. Corresponding slices of bark were removed from the base of the scion, 3-4 cm on one side, shorter on the other, so as to fit into the slice on the stock. The cut surfaces of the scion were matched up with those of the stock, bringing the cambium layers into contact. The shorter cut on the scion was covered with the lip of bark and cambium attached to the rootstock, the whole being kept in place by a special rubber tie obtainable for grafting purposes. The junction of stock and scion was then covered with grafting wax.

The root systems of the understocks were extensive, necessitating the use of six-inch polythene bags for potting up the grafted plants. The compost used was moss peat only, incorporating slow-release fertiliser. The potted plants were kept on the bench in a cold house, and by June were so well into growth that they required potting on into nine-inch wide containers. At this stage they were placed on a capillary bed, still in a cold glasshouse.

Growth was remarkably rapid resulting in long whips by leaf fall. *T. caucasica* had made c. 2 m of new growth, and *T. henryana* c. 1.5 m. The plants of *T. chingiana* were the smallest, reaching about 0.25 m, this lesser growth attributable to poorer scion wood being available for this species.

Occasionally the bottom buds on the lime scions started into growth; these were removed to maintain a single stem, which was staked carefully as it developed. Ten scions of each species were grafted and the success rate was high. All the grafts of *T. caucasica* and *T. chingiana* were successful, and only three of *T. henryana* failed, despite the variability of the one-year-old shoots used as scions. Inevitably, some of the scions were crooked and awkward to handle, coming as they did from long-established trees rather than from young nursery stock, as would be usual under commercial conditions. Nevertheless the wood was soft and easy to cut.

These results are interesting in view of the discouraging remarks by W.J. Bean (*Trees and Shrubs Hardy in The British Isles*), who stated that grafted plants of *Tilia* frequently make very unshapely trees. The specimens raised at Kinsealy show every promise of growing into good trees, given adequate aftercare, every one being straight and smooth. They were raised by techniques which have proved very satisfactory for a wide range of woody plants at Kinsealy. These include the constant supply of moisture from the capillary bed, steady nutrition from slow-release fertiliser in a peat medium, and the protection of an unheated glass or plastic structure. Observation over a number of years shows that plants raised in this fashion grow well when planted out, resuming growth at a rate normal under the climatic conditions of this country.

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²Kinsealy Research Centre, Malahide Road, Dublin 17.

EPHEMERA FROM AN IRISH GARDEN – ROSES AT BIRR IN 1878

In 1986 I purchased a copy of Robert Thompson's *The Gardener's Assistant*, published in 1859 by Blackie & Son of Glasgow. It is a typical Victorian gardening manual, but this copy, rather battered and worn, is sadly missing most of its coloured illustrations. The fine frontispiece depicting two lilies is, however, still intact.

The volume is of more interest for additions. On the first blank leaf is a 'List of roses & nos. at Birr/[18] 78', and, at the back, are various scribbled pencil plans for a small formal square garden.

The list of roses is transcribed below and I have added notes on the cultivars, some of which are discussed by Graham Stuart Thomas in his books *The Old Shrub Roses*, *Shrub Roses of Today* and *Climbing Roses, Old and New*. The numbering and spelling of the name, as given below, is that used by the original compiler.

1. Alfred Colombe – 'Alfred Colomb' is a hybrid perpetual rose with scarlet-crimson double flowers that are very fragrant. A seedling from 'General Jacqueminot' raised by Lacharme in 1865.
2. 'Auguste Rigotard' – a cerise-flowered hybrid perpetual rose introduced by Schwartz in 1861.
3. Baroness Rothschild – possibly 'Baronne Ad. de Rothschild', a soft-pink rose, also a hybrid perpetual, from Pernet introduced in 1867.
4. 'Beauty of Waltham' – this was raised by the English nurseryman William Paul, who founded Royal Nurseries at Waltham Cross in 1860. It has pinkish crimson blossoms, and is a hybrid perpetual.
5. Chas. Lefebvre – 'Charles Lefebvre' is noted by Thomas as being one of the first bright crimson cultivars, a colour it shared with 'General Jacqueminot' (see 9 below). It was raised by Lacharme in 1861.
6. Comte de Nanteuil – 'Comte de Nanteuil', introduced in 1852 by the French firm of Quétier, is a hybrid perpetual with bright pink flowers.
7. Duchess of Edinburgh – there are at least three roses under this name in the lists, including a carmine flowered tea rose introduced by Messrs. Veitch in 1874.
8. 'Ferdinand de Lesseps' – a vermilion hybrid perpetual introduced by E. Verdier in 1869.
9. 'General Jacqueminot' – Thomas describes this as 'a famous plant', and noted that the flowers are 'rich crimson . . . fully double, large and cabbagey, very fragrant'. It was one of the most brilliant red roses when introduced by Roussel in 1853, but now is 'old-fashioned', and is eclipsed by modern hybrids.
10. 'John Hopper' – introduced by Ward in 1862, this very fragrant rose is, according to Thomas, a 'real old "cabbage" in its usually understood sense'. The full flowers are dense, with rolled petals of vivid cerise-pink, fading with a mauve tint.
11. General Hautpoint – 'General d'Hautpoul' is another of E. Verdier's hybrid perpetual roses. This cultivar with light scarlet blooms was introduced in 1864.

12. 'Dauphin' — this rose was available as early as 1827, so it is one of the oldest in this list. A China rose with red flowers.
13. Laelia — there were two cultivars named 'Laelia' available in 1878. One had bright rose flowers, the other was rose-lilac.
14. 'Mdle Marie Rady' — introduced in 1865 by Fontaine, this hybrid perpetual produces bright cherry pink blossoms.
15. Mdle Ilona de Adjoran — 'Mdle Ilona d'Adjoran' was released in 1874 by E. Verdier. This cultivar, a hybrid perpetual, has salmon and silvery-white flowers.
16. Paul Neron — 'Paul Neyron', a hybrid perpetual introduced in 1869 by Levet, bears very large flowers, deep rose-pink, with a pale back to each petal, and a lilac flush. Thomas says it has no special value, except as a luxury to cut; it is not perfumed.
17. Marquis de Ligneris — 'Marquis de Ligneris', but the only rose with this name listed is a rose-coloured hybrid perpetual raised in 1889 by Guenoux, eleven years after this list was prepared.
18. Reine Medie — 'Reine de Midi' was raised in 1867 by Rolland. It is a lilac-rose hybrid perpetual.
19. 'Sir Garnet Wolseley' — one of the vermilion hybrid perpetual roses, introduced in 1875 by Cranston.
20. 'Xavier Olibo' — several roses in the list were raised by Lacharme; this velvety-crimson hybrid perpetual was introduced in 1864.
21. 'Madame Maurin' — a tea rose, raised by Guillot père in 1853, with blooms described as cream and fawn, large, full and finely formed.
22. 'Madam Trifle' — there are only five tea roses (see 21, 23, 25, 27) in this list. This cultivar, introduced in 1869, had strong yellow blossoms.
23. 'Madam de Tartas' — this pink tea rose, crossed with a 'polypom', produced the fine rose 'Cecile Brunner', which was named in 1881.
24. Madame Willermoz — Madame Melanie Willermoz's name was used for two distinct cultivars raised by Lacharme; the first (of 1849) had cream flowers, and the second, dating from 1859, had clear pink blossoms.
25. 'Regulus' — a tea rose with coppery-pink flowers introduced in 1860 by Robert & Moreau.
26. 'Perfection des Blanches' — the only hybrid Noisette rose in the list, this cultivar came from Schwartz, and, as the name suggests, had white flowers.
27. Shirley Hibbert — 'Shirley Hibberd', a tea rose with flowers described as Nankeen yellow. It was introduced by Levet in 1874.

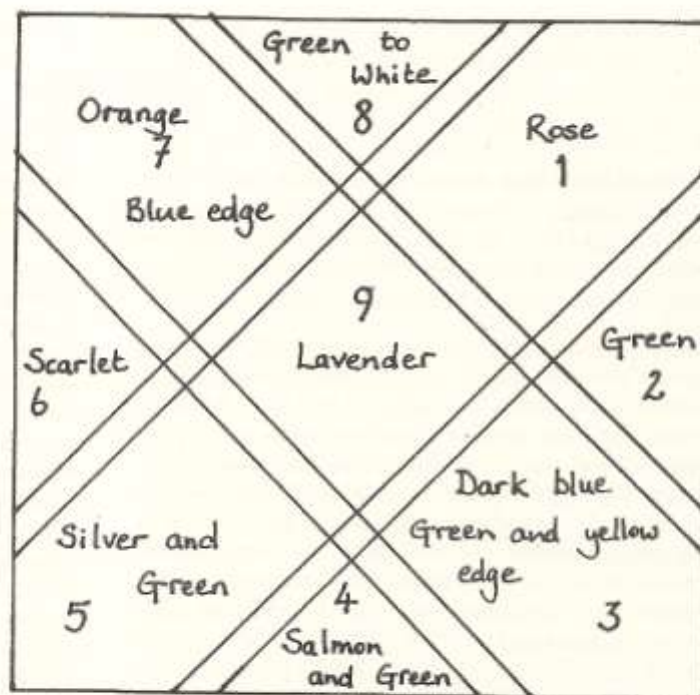
On the blank leaves at the back, the same person who listed the roses at Birr, set down a plan for a square garden, divided into nine irregular beds, according to the sketch below.

There is a list provided of the plants to be used.

1. Rose closely pegged
2. Mignonette
3. Heliotrope and Arabis
4. Salmon geranium
5. Silver Geranium
6. Verbena Foxhunter
7. Gazania & lobelia
8. Madame Voucher
9. Ageratum [Rose geranium deleted]

An alternative list is also given:

1. Gazania
2. Silver Geranium
3. Rose low pegged
4. Golden chain
5. Gazania
6. Silver Geranium
7. Heliotrope
8. Golden chain
9. Tom Sherry



This second list does not accord with the colours in the plan and may relate to an unfinished sketch on the same page.

It is not certain if these annotations refer to the garden of Birr Castle, but it seems more than likely that they do. At the period the Rosse family was not especially keen on gardening, but like other demesnes in Ireland, it is unlikely that the garden was devoid of flowers.

Acknowledgements

I am very grateful to Mary Davies for drawing my attention to this book and to Graham Stuart Thomas for annotations and notes.

National Botanic Gardens, Glasnevin, Dublin 9.

Book Reviews

E.C. NELSON and Eileen M. McCracken. *The brightest jewel, a history of the National Botanic Gardens Glasnevin, Dublin*, with original watercolours by Wendy F. Walsh. 1987. pp. 275; illustrated. Kilkenny: Boethius Press. ISBN 0-86314-083-1. IRE£2.00.

As I was about to show my latest acquisition to a book-loving friend, she caught sight of the title and said, 'It has to be about India, the brightest jewel in the Empire's crown', but this jewel is far closer to home. Walter Wade in 1819 described the Botanic Gardens at Glasnevin as 'the brightest jewel... in the [Dublin] Society's cap, admired by all who have visited it.' Today's visitors have the opportunity of deepening their appreciation by reading this carefully researched history of how the Gardens have developed since the first sixteen Irish acres were purchased on 25 March 1795. Their administration passed from the Royal Dublin Society to the Department of Science and Art in 1878 and on to the Department of Agriculture and Technical Instruction (now the Department of Agriculture and Food) in 1901, but always the people continued 'to come to feast on the beauties of tree and shrub, and herb, and enjoy the fragrance,' as William Robinson put it in an article in the *Gardeners' Chronicle*, and the original aim expressed in Walter Wade's petition for a botanical garden, of promoting 'an intimate Knowledge of the various Vegetable Productions and Processes of Vegetation' was maintained.

Wade became the first Professor and Lecturer in botany and was also responsible for the layout of the Gardens. Many changes and developments took place over the years and it is interesting to learn about the background of some of the features which can still be seen. Two spots where I have enjoyed many picnic lunches are beside the pond and at the rockery. The former was excavated as long ago as 1805; the latter was built about a hundred years later. Reginald Farrar wrote about its 'chaotic hideousness', which seems to me an unnecessarily severe judgement. Certainly the trees and plants there have given me great pleasure, particularly in spring and autumn. The appearance of Richard Turner's Curvilinear Range, erected in the 1840s, is familiar from our present definitive series of stamps. Its story and those of the other glasshouses are recounted. One of them was built specially for one plant, the *Victoria regia*, but the Botanic Garden in Belfast beat Glasnevin in the race to flower this giant waterlily.

Plants and seeds were obtained in various ways for the Gardens. While many were purchased at home and abroad or received on an exchange basis from other botanical institutions, private individuals also played an important role. Ninian Niven, the second Head Gardener/Curator, was so interested in encouraging donations that he wrote a circular giving instructions for collecting in foreign countries. The invention of the Wardian case in the 1830s made it much easier to transport plants during the long sea voyages, and quantities of seeds were also received, including on one

occasion some which had been collected by the famous African explorer and missionary, David Livingstone. Irish gardeners were also very generous with material they had or happy to exchange it for other plants from Glasnevin.

Each of the curators had his own specialities. David Moore's interest in insectivorous plants attracted the attention of Charles Darwin, leading to correspondence between them. David's son, Frederick, had a great love of orchids and because of his wish to record his extensive collection, he left a wonderful legacy of botanical art to the Gardens. Lydia Shackleton did over a thousand watercolours of orchids for him and several hundred other plant paintings as well. Examples of her work and that of her successor, Alice Jacob, are among the beautiful colour plates in *The brightest jewel*.

Education was always a function of the Botanic Gardens. From the beginning Walter Wade had to give lectures in botany, and the first apprentices were taken in 1812. I was delighted to read that Frederick Moore quietly and unofficially took on two female apprentices in 1898, thus helping to open up the way to careers in horticulture for women in Ireland.

Every educational institution should have a library, and the first books were purchased for Glasnevin in 1799. The present fine collection was enriched by several bequests, especially that of William Edward Gumbleton in 1911. As I have the privilege of being involved in looking after the Library, his name has been familiar to me for a long time, but a little incident recounted about a visit he paid to the Gardens made him come alive. Frederick Moore, then a newly-appointed and youthful curator, was showing him around when 'Mr. Gumbleton denounced a plant... as a "Tush Plant", his term for any plant he did not like, and proceeded to beat it to bits with his umbrella.' Poor Frederick...

Let no one be put off because this book is a history. It is also an account of real people and exciting developments, many of which have had repercussions on the appearance of all our gardens.

Valerie M. Ingram

KEW GARDENING GUIDES

Brian MATHEW. *Flowering bulbs for the garden*. 1987. pp. 124; illustrated. London: Royal Botanic Gardens, Kew & Collingridge. ISBN 0 600 35175 0. UK£7.95.

David CLARK. *Fuchsias for greenhouse and garden*. 1987. pp. 124; illustrated. London: Royal Botanic Gardens, Kew & Collingridge. ISBN 0 600 35177 7. UK£7.95.

The Kew Gardening Guides comprise a new series of well-designed and elegantly produced books, bound in hard covers, published under the general editorship of John Simmons, the Curator of the Royal Botanic Gardens. This gives these volumes a stamp of approval that certainly should make them worthy of the attention of

keen gardeners. To date four books have been produced but only two have been received for review, that on bulbs and that on fuchsias.

Brian Mathew is well-known for his work on bulbous plants both as a taxonomist and as an excellent speaker and writer. His volume includes hardy bulbs, although some tender subjects are noted. The plants discussed are usually species, but cultivars are recommended when appropriate (for example, the better modern lily hybrids are listed). Each species is described briefly, and its cultural requirements outlined. The volume has a good selection of colour photographs and line drawings, so that almost all genera are represented pictorially. The A to Z of bulbs (according to generic name) occupies about half of the book. There are five preliminary chapters on bulbs, their natural occurrences, their conservation and their cultivation, and a short discussion of special bulbs for the enthusiast.

In contrast to this species-orientated book on bulbs, David Clark's one on fuchsias is dominated by the cultivars. Species are not ignored and there is a stunning photograph of my own favourite, *F. procumbens*. Again the cultivation of fuchsias is amply treated in preliminary chapters – enthusiasts will find the discussion of training, propagation and diseases most valuable. A *Fuchsia* calendar details what to do each season to ensure your collection thrives, and the A to Z lists hundreds of cultivars. The colour photographs are magnificent and could convert even the most philistine gardener into a *Fuchsia*-freak. My only criticism is about the nomenclature – when an author states that the correct name is 'Versicolor' he should not proceed to list the plant under its invalid name 'Tricolorii'. A book, bearing the imprimatur of the Royal Botanic Gardens, Kew, cannot let such matters slip past uncorrected.

If these two books indicate the standard of these handbooks faithfully, every gardener can be assured that this series will be excellent value. The slim, colourful and informative volumes would make excellent gifts, and I look forward to seeing more volumes.

Incidentally the two not received for review are on climbing plants and plants for pools.

E.C. Nelson

Patrick BOWE. *The gardens of Ireland*. 1986. pp. 189; illustrated. London: Hutchinson. ISBN 0-09-167100-0. UK£18.95.

Ireland is well known for its climate which is so favourable for plants and this book emphasises that fact. Twenty-one gardens are described in detail – some well-known, others not so – ranging from large estates to the smaller farmhouse garden. The stories behind the owners and their gardens are also fascinating.

The text is written in an easy, flowing manner and there are plenty of useful tips to be picked up. I like the idea of the carpet of *Alchemilla mollis* on the terrace at Slevyre, while Miss Booth's combination of wildflowers with garden plants opens up a whole range of possibilities for keen gardeners. Also, how many people know of the existence of the laurel-lawn at Fernhill, but what a pity there is no photograph of it?

Unfortunately the author and photographer have been ill-served by their publishers in two respects. Many of the photographs are far too dark and the standard

of technical editing leaves much to be desired. The latter is inexcusable as several excellent books have appeared on the market in recent years, dealing specifically with plants cultivated in Irish gardens. There are numerous spelling mistakes (e.g. *Athrotaxius* for *Athrotaxis*) which could have been avoided by careful copy-editing. Some of the more obvious points include the use, throughout the text, of italics for botanical names while the cultivars are in roman letters, but unfortunately in the captions and index it is the other way round (e.g. *Viburnum plicatum* 'Mariesii'). Often common names are used without any botanical name (e.g. Cape figwort or Scotch thistle) and this can lead to confusion as common names vary according to district or country. However the common and botanical names are sometimes confused as on p. 57 when *Ginkgo biloba* (the maidenhair tree) is called the Tree of Heaven (which is *Ailanthus altissima*).

Trinomials are incorrectly used throughout. *Sequoiadendron giganteum glauca* should be *Sequoiadendron giganteum* 'Glaucum', *Escallonia rubra macrantha* should be *Escallonia rubra* var. *macrantha*, and *C. l. 'Fletcheri Nana'* should be *Chamaecyparis lawsoniana* 'Fletcheri Nana'. I must also draw attention to use on p. 55 of a provisional name for a supposed (but entirely spurious) new species of *Magnolia*; to my knowledge this is only a cultivar of an already known species. The printing of this name contravenes the rules of botanical nomenclature.

On the whole, this is an interesting book, but the poor quality of its production and editing leave considerable doubts in the reviewer's mind.

Susyn Andrews

Mary KEEN. *The Garden Border Book*. 1987. pp. 153; illustrated by Gemma Nesbitt. London: Viking. ISBN 0-670-80749-7. UK£14.95.

For those of us who love border plants I feel sure this book will be of great interest.

A good border is one of the most difficult features in the garden to get right and certainly one of the hardest to maintain. Where to put the plants is as important as how to grow them. How often have we returned home excitedly with a new plant and gone out into the garden full of enthusiasm only to end up completely puzzled as to where to put it? Down it goes and the following year we find, to our dismay, not only is it too high for the plants behind it but it clashes with its neighbours, and if we leave it until too late in the autumn to move it to where we think it would look better, very often it has died down and we are unable to find it!

Not so if we follow the detailed plans which accompany the 30 examples of borders beautifully illustrated in colour in this book. Each border is different and the gardens are situated throughout England on different soils, using different stone. Some are in the care of the National Trust and were originally designed by Graham Thomas and Lanning Roper; others are by enthusiastic amateurs. Only one belongs to a small specialist nursery and this chapter is entitled 'A Collector's Corner'. All 30 gardens may be visited by the public.

In the introduction Mary Keen emphasises how important shelter is behind a border and suggests that 'where the wind rises from the east or west, buttresses

of yew or large shrubs should be grown to protect the corners and create a micro-climate (Use wattle hurdles for instant shelter while you wait for things to grow). Out in the open, garden walls and hedges still make the best background for traditional borders but posts and wire with climbers trained to them will also provide backing'.

There is something for everybody, for the more experienced 'a peep behind the scenes' into other people's gardens. Everyone recognises that one of the best ways of learning how to combine plants is to go and see what others have done. The book offers a short cut to finding your own style by examining the designs of other people.

For the amateur it is a lovely book to browse through, taking in the vivid colouring and grouping, and the short commentary on each border. Then to turn the page and find a detailed plan listing each plant in the picture in its situation. Gemma Nesbitt has done an excellent job here. No one will want to copy exactly any of the border plans as we all will dislike some of the plants included and wish to add our own favourites, but certainly the plans are a marvellous guideline.

If the drawings don't tempt into gardening people who have never bought a pair of wellington boots, I cannot imagine what will!

I certainly would not like to be without this book and next summer I can picture myself with *The Garden Border Book* on my knees in the garden, dreaming of all those lovely illustrations, surveying my own plot and trying to put into practice some of the knowledge I have gleaned from one of the nicest books on border plants I have read in a long time.

Joy Armitage

David L. JONES. *Encyclopaedia of ferns*. 1987. pp. xviii, 433; illustrated. London: British Museum (Natural History). ISBN 0 565 01019. 0. UK£35.

This book was written for a southern hemisphere (mainly Australian) audience, but it has been published in Europe by the British Museum (Natural History). The Australian experience of its author, a professional horticulturist, shows throughout the book. For example, Jones lists plants which are 'very hardy to frost and snow' (pp. 400-401) and among them are *Dicksonia antarctica*, *D. fibrosa*, *D. lanata* and *D. squarrosa*. None of these can long survive the rigours of Irish winters, as I know from experience with *Dicksonia antarctica*. But of course in the context of Australia they are 'very hardy'.

Laying aside the problems of translating from Australia to western Europe, this is a valuable compendium about ferns and their cultivation. It is a true encyclopaedia, listing many hundreds of species, but thankfully leaving aside the plethora of absurd variants that were so beloved of our nineteenth century precursors. Cultivars are noted — *Athyrium felix-femina* 'Frizelliae',

for example — but there are far too many unknown species for us to pay much attention to the freakish monsters. Among the plants I noticed was an *Adiantum edgeworthii*, named for Michael Pakenham Edgeworth from Edgeworthstown; it is prolific, producing plantlets at the frond tips, but, alas, is a tropical species and would perhaps only survive in a well-heated conservatory. Many other less exotic and tender species are noted, but I noticed many omissions; the Killarney fern (*Trichomanes speciosum*) is not included. Nor is *Pseudophegopteris levingei* which I acquired from Graham Stuart Thomas a few years ago; it received an award of merit from the RHS when shown in June 1986, although it was introduced only recently from China. Like Alan Leslie who grows it in Surrey, and Graham Stuart Thomas, I have found it to be completely hardy; the soft, hirsute fronds are elegant, but tend to be damaged easily in wind.

Anyone who is already interested in ferns will find David Jones's encyclopaedia more than enthralling. At UK£35 it seems expensive but it is a big, heavy volume with colour photographs and line drawings. There are excellent preliminary chapters on ferns, their classification and biology, their cultural requirements and pests and diseases. While the southern bias does occasionally cause difficulties, as with hardness, there is so much information in this volume that I do recommend it wholeheartedly.

E.C. Nelson

Sybil CONNOLLY and Helen DILLON (editors). *In an Irish Garden*. 1986. pp. 160; illustrated. London: Weidenfeld and Nicolson. ISBN 0-297-78929-5. UK£14.95.

This is altogether a delightful book in which twenty-seven private gardens in Ireland of different sizes have been described by their owners. The range of scale of the gardens treated is great, from parks to suburban gardens. The descriptions of each 'garden' provide not only something of the history of the ground and house, but also some details of the plantings and plant associations.

The book opens with a prologue by Charles Nelson, which is informative and scholarly and filled with tantalising information about Irish gardens and gardeners upon which, we can only hope, Dr Nelson will elaborate one day. He reminds us of the distinctive climate of Ireland upon which the peculiar native flora and the exotic flora of the island depends, and time and again in the subsequent pages reference is made both to the vagaries of the weather and the agreeable climate that work against and with the gardeners.

The use of tree, shrub and herb taxa from the southern hemisphere in Irish gardens is striking, and, again, it is the agreeable climate and, occasionally, the artifice of the gardeners that permits their use and often luxuriant growth. The walk of the tree ferns, *Dicksonia*

antarctica thrives on Garinish Island, Co. Kerry in the shelter of a wind break of larch and lodgepole pine: here also are *Podocarpus salignus* from Chile, *Colletia cruciata* from southern Brazil, *Pseudopanax crassifolius* and the Kauri pine, *Agathis australis*, from New Zealand. In Brian Cross's garden at Lakemount, Co. Cork, herbaceous plants from the southern hemisphere include the Chatham Island forget-me-not *Myosotidium hortensia*, *Dianella tasmanica* and the remarkable south African plant *Restio subverticillatus* which occupies a niche similar to that of the northern hemisphere sphagna. At Beech Park, Co. Dublin, David Shackleton grows more than half of all the species of the New Zealand Mountain Daisies, *Celmisia*, and Mrs Betty Farquhar succeeds in growing the pink-flowered *Mutisia oligodon* in a courtyard at Ardsallagh in Co. Tipperary.

The exchange of plants and the connections between gardeners in Ireland and elsewhere would be the subject of another book, but there are glimpses of this trade and the inspiring figures of Irish horticulture in the chapters of this book. Examples would be of the gift of the rose 'Souvenir de St Anne' to Mrs John Brown's mother from Lady Moore; daffodils from the Dorrien-Smiths on Tresco to Lady Rachel Wynham-Quin, planted at Glin Castle, Co. Limerick; *Astrantia carnioica* from Lady Moore and saxifrages from Lady Scott planted at Beech Park, Co. Dublin and *Celmisia saxifraga* and *Blandfordia punicea* from Lord Talbot also planted there. Lord Talbot also endowed Mrs Olive Stanley-Clark's garden at Shiel, Co. Dublin with many plants, including the small, evergreen shrub from Chile, *Vestia lycioides*, for which Mrs Stanley-Clarke will never forgive him, because he 'planted it underneath my bedroom window, [and] it smells of tomcats and frustrates all my struggles to dig it out'.

So, here is the Irish version of *The Englishwoman's Garden* (1980) and *The Englishman's Garden* (1982) both edited by Alvide Lees-Milne and Rosemary Verey, but set apart from them by the quality of the prose and the exquisite colour and black and white photographs by Walter Pfeiffer that adorn the pages of the book. The plate showing the alley of snow-touched, tangled branches of two-hundred-year-old beeches at Charleville, Co. Wicklow is artful and memorable.

It would be churlish to carp but it would have been nice to have seen some planting plans, perhaps a selection of those by the late Lanning Roper for Glenveagh Castle or Castle Martin, or by Norah Lindsay at Castletown Cox. It was noticeable that most of the gardens described were close to Dublin, and there were no examples of gardens in central or western Ireland: I agree with the editors that a sequel to this volume would remedy this.

Michael J. Tooley

John KILBRACKEN. *The easy way to wild flower recognition*. 1984. pp. iii, 131; illustrated. London: Kingfisher Books. ISBN 0-86272-088-5. UK£3.95.

Ruth Isabel ROSS. *Pocket guide to Irish wild flowers*. 1987. Belfast: Appletree Press. ISBN 0-86281-192-9. IR£3.95.

If you want to walk among wildflowers and try to discover their names, John Kilbracken's pocket-book is undoubtedly one of the most useful works currently available. It is novel in its approach, because it is set out as a 'key'. To each simple question the answer is either 'Yes' or 'No', and by discovering the correct answer you will be led to another question or ultimately to the plant's name. The book is properly indexed with full Latin names, and a valuable checklist-cum-index of English names.

There are plenty of accurate, colourful illustrations, about which I have no complaints, and easily understood descriptions. While some of the 200-odd plants included do not occur on the western side of the Irish Sea, this book would make an ideal, informative present for keen amateur botanists of any age, and particularly for youngsters. Lord Kilbracken (whose Irish home is Killegar, County Leitrim) and his publisher are to be commended on a bright, thoroughly useful book which is excellent value in all senses.

No such accolades should be given to Appletree Press for its book which is over-priced, shoddy, and abominably illustrated. Only 80 species are included in this very slim work whose text contains snippets of history, short descriptions and notes on flowering time and distribution. Choosing those 80 plants must have been a difficult task; many common ones (e.g. primrose, cowslip) are included with a sprinkling of rarer species (e.g. Kerry lily) but I wonder why most bog plants (e.g. bog cotton, ling) are omitted given their prevalence here. The species are arranged in an extraordinary way — alphabetically according to their English names, within sections based on the seasons. English and scientific names, and an occasional Irish name, are given, but the derisory, incomprehensible index is to English names alone.

The illustrations are among the most dismal and lifeless I have ever seen. Moore's draughtsmanship is poor, and he has obviously and extensively copied, contrary to copyright, from works by much better artists principally Keble Martin and Ian Garrard; no acknowledgement is made to them or their publishers.

The purpose of this so-called 'guide' must surely be to stimulate interest in plants. This one lamentably fails, let down by stilted artwork, and inadequate representation of plants from such distinctive habitats as Ireland's peatlands.

E.C. Nelson

Editor: E.C. Nelson; Asst. Editor: J. Cassells

The Irish Garden Plant Society was formed in 1981 to assist in the conservation of garden plants, especially those raised in Ireland. It also takes an interest in other aspects of the preservation of Ireland's garden heritage.

This journal will be devoted to papers on the history of Irish garden plants and gardens, the cultivation of plants in Ireland, the taxonomy of garden plants and reports of work carried out by the society and its individual members.

The editorial committee invites contributions from members of the society and others. Manuscripts, typed on A4 sheets (double-spaced and typed on only one side of each sheet), may be submitted to the Editor at the National Botanic Gardens, Glasnevin, Dublin 9, from whom further details may be obtained.

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Dublin**

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