YEAR BOOK
OF THE
HEATHER SOCIETY

1980

THE HEATHER SOCIETY

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Gesellschaft der Heidefreunde
Pacific Northwest Heather Society

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Editorial

A third name has been added to those of the Dutch and German societies at the top of the title page of this Year Book. The Pacific Northwest Heather Society has become our third affiliated society.

During the summer of 1979 one of our South African members, John Crewe-Brown, visited Britain with his wife. He was much impressed with the enthusiasm of members of the Heather Society and returned home determined to try to form a society in South Africa. We wish him every success in this project.

In this issue we have a review of the French language book "La Bruyère" written by Comte B. de la Rochefoucauld. This book will certainly stimulate interest in heather growing in France. Perhaps we may look forward to the formation of a French society in due course.

Interest in heather growing seems to be increasing in other parts of the world. Perhaps we may allow ourselves a little pride in this since our own Society was the first devoted to this group of plants, and we can take some small part in the responsibility for the increase in their popularity at home and abroad.

One of the main topics of conversation among gardeners in the early part of 1979 was how their plants had fared during the near-arctic winter of 1978-1979. The European heaths are normally considered to be hardy - in fact A. T. Johnson and John Letts both proclaimed them to be so in the titles of their books. However heathers apparently suffered along with other plants during the winter. A number of people wrote and told us which of their plants were damaged. Parts of some of these letters are printed in this Year Book. Unfortunately fewer people told us of the almost certain recovery of their damaged plants during the summer. This criticism cannot be levelled against T. A. Julian, who has contributed an account of the winter damage and subsequent recovery of the heathers on the trials

ground at Harlow Car. We also have a note on the performance of *Erica manipuliflora* during the winter which goes some way to putting the record straight on the hardiness of this species.

The last really severe winter we experienced in Britain was that of 1962-1963. The Heather Society was formed on 20th February 1963 and our first Year Book later that year contained an account of how heathers behaved in that winter. I have reprinted that account for the benefit of members who have not had the opportunity to read it and also to allow comparison with the recent hard winter.

From the Chairman.

Maj.-Gen. P. G. Turpin, C.B., O.B.E.
West Clandon, Surrey.

1979 has been notable for the progress which has been made in preparing for the establishment of our heather Reference Collections. In addition to the Wisley Collection the Council of The Northern Horticultural Society has agreed to establish at the Harlow Car gardens a Reference Collection, duplicating the one at Wisley.

Mrs. D. Metheny, one of our Vice-Presidents, who lives in the United States at Seattle and has been one of the moving spirits in the formation of the Pacific Northwest Heather Society, paid one of her rare visits to this country. It was a great pleasure to welcome her to our 9th Annual Conference at Weymouth.

When we talk about the beauty of heather most of us think of the wide sweep of purple that colours the moors of Yorkshire or Scotland or the late summer ladnscapes of Exmoor or Dartmoor. Many of us try to recapture these effects in our gardens by planting heathers in large groups and even hope to improve on Nature by the use of contrasting colours and foliage varieties.

But how many of us take the trouble to look closely at the tiny individual flowers of our heathers? The botanically-minded, of course, armed with their magnifying glasses and often crawling on their knees, are always peering into odd corners and probing into the intimate secrets of flower parts. Only the most academic and insensitive of them could fail to appreciate the natural beauty which is revealed to them.

Take a closer look at the double flower of *E. mackaiana* 'Plena'. With more than thirty petals it is like a perfect miniature of a shell-pink rose. Or look at the flowers of any of the double Callunas, fairy flowers on long stems that can match any of the flowering Cherries except in size. Even the single-flowered *Calluna,* with its corolla held open by the awns of the eight anthers, so beautifully arranged around the stigma, is perfect in its own way.

All you need is a small pocket lens, preferably one giving you 10 x magnifications, and this will not only reveal to you a new world of miniature beauty, but will also enable you to recognise the small differences which distinguish some of the species and hybrids of our native heathers.

Weymouth - 1979

A. J. Stow, Flackwell Heath, Buckinghamshire

Long before the official reception time on Friday August 31st for the Society's Annual Conference, members were arriving from all over the country at the Dorset College of Higher Education, anxious to unpack and then renew friendships made at previous Conferences.

After dinner we were welcomed in the assembly hall by our Chairman Maj.-Gen. Pat Turpin. He paid tribute to the very impressive preparations that had been carried out by the local group. A host of heather floral displays

were on every window sill, whilst by the stage there was a grand display of plants to associate with heathers, which was the work of Douglas Chalk, and was the basis of the talk he was to give the following morning.

We were then pleased to welcome Drs. Morris and Chapman who were to be our guides for the visit to Hartland Moor the following afternoon, and they set the local scene for us.

Mrs. Maginess then spoke about her own garden at Broadstone and mentioned some particular memories that stand out in her mind during her membership of the Society. One pleasant one being the visit of Fred Chapple to her garden, and who could disagree with her? I too had the pleasure of welcoming that likeable man to my own rather modest garden on the 1st May 1969 when, on signing a copy of his book, he gently chided me that it was not the latest revised edition!

We were then shown slides of her garden taken both before and after the drought of 1976 which decimated much of her heather and the process of rehabilitation is still, three years later, not complete. I had the pleasure in 1973, on my way home from the Dartington Hall Conference, to call unannounced and uninvited, to view her delightful garden. Bad manners tend to be overlooked when one can call with the little red book in hand.

The next morning, David McClintock spoke on a completely new subject not included in any previous conference agenda. This was a most interesting and informative talk on flower pressing and drying; and he went on to say in how many ways this can be of benefit. It was interesting to learn that dried specimens retained nearly all the characteristics of the subjects except fresh colour, which, these days, could easily be recorded by reference to the Heather Society colour chart.

After coffee Douglas Chalk suggested plants to associate with heathers and it was helpful to have the actual plants on display for easy identification.

During the afternoon members split into two groups,

one to visit Mrs. Maginess's garden, the other to tackle the bog areas of Hartland Moor in order to view *Erica ciliaris* and *E.* x *watsonii* in their natural habitat.

This latter group had the interesting, though sobering, experience of seeing the heather beetle *(Lochmaea suturalis)* and its effect on *Calluna vulgaris.* We were informed that the heather tends to recover relatively quickly from the attentions of this pest and indeed rejuvenation of infested plants was apparent.

Saturday evening was spent with a question and answer session before an early adjournment to the bar.

On Sunday morning our distinguished visitor from the USA, Mrs. Metheny, entertained us with her experiences of heather growing across the Atlantic and this was accompanied by slides of her own garden.

This was followed by a talk on commercial heather growing by John Hall from Windlesham Court Nursery. To those of us who spend so much of our time in business or industry and spend the evenings and weekends enjoying propagating and cultivating heathers, this would seem an ideal way of earning a living. However, after listening to the complexities of the commercial aspects, when you come up against cash flow problems and staff boredom, due to the sheer volume of plants handled in the course of the year, I came to the conclusion that this was not for me. I enjoy my heathers, each plant is a friend to be studied and enjoyed, and if I do spend so much time away from them, it is something to look forward to on my return and the pleasure does not diminish.

After coffee came the A.G.M. which has already been reported in the Autumn Bulletin.

Molly Boxall followed with a talk on using heathers in flower arranging. Those of us who had heard her earlier offering on this subject at the Dartington Hall and Farnham Conferences, enjoyed the encore as much as those being entertained so well for the first time. The Conference, had up to now, lacked the jolly atmosphere of previous years; it was hard to pinpoint the reason

exactly; perhaps it was the spaciousness of the accommodation; however Molly Boxall managed to recapture the right atmosphere during her talk and demonstration.

After lunch Harold Street spoke on the subject, "Design for Heathers". In view of what had been mentioned previously during the weekend, this talk could be described as controversial in that, although it is generally assumed that dwarf conifers associate with heathers, he questioned this thinking. Before dismissing this statement as absurd, it is well to think adn recollect the last time one saw conifers on a moor, with the possible exception of the odd Scots Pine. He also questioned the need for numerous cultivars to be grown in one garden and recalled the article by Pat Turpin in the 1979 Year Book, noting the pleasing effect with relatively few cultivars, achieved at Wakehurst Place. In the final outcome, garden design is very much a matter of personal taste, but this well-prepared talk imparted a lot of useful information with valuable guidelines for members wishing to create a new heather garden or alter an old one.

Ruth Hayden then introduced more pages from the life of Mary Delany, before our Chairman officially closed the conference.

It was good to have the company of Don Richards from Eskdale in Cumbria and the Chatelaines from Kent, well known members of the Society but attending their first Conference. May we see them again next year as we look forward to Edinburgh and the opportunity of visiting the heather garden in the Royal Botanic Gardens.

Winter Damage at Harlow Car.

T. A. Julian, Whaley Bridge, Derbyshire

The extraordinarily severe conditions of the winter of 1978 - 1979 persisted from January 1st to April 1st 1979 in the Harlow Car Gardens. In that period temperatures below zero Centigrade were recorded on 67 days, and on three days they fell to -13°C. For most of this time there was a complete covering of snow on the plants. Wind conditions were not recorded.

When inspected on 18th April, most of the plants displayed small open or dead areas in their centres. In the case of the plants of *Erica carnea, E.* x *darleyensis, E.* x *stuartii, E.* x *watsonii* and *E.* x *williamsii* this was due to the splitting of the central stems, almost certainly caused by the weight of snow. However similar symptoms in the cultivars of other species and genera were caused, mainly, by "freeze split" or multiple splitting of the leading stems in the plant centres. It is thought that with the partial thawing of the snow covering, the centres of the plants would become exposed and, they would be subjected to the winds and low temperatures.

Most of the cultivars in the Harlow Car trials were planted in 1971, but later plantings were made in 1975 and 1976.

Calluna vulgaris

Not surprisingly the cultivars of *Calluna vulgaris* stood up quite well to the severity of the winter. Only 15 of the total of 134 cultivars in the trials were significantly affected and most of these were from the 1975 planting which had been seriously weakened by the drought of 1976. Several plants showed the above-mentioned 'freeze-splitting" of the middle stems, and where the foliage had died, no new growth has appeared.

Daboecia cantabrica and *D.* x *scotica*

All plants were severely damaged. This was not surprising since the natural habitat of *Daboecia*

cantabrica is western Ireland and the Atlantic areas of the south western European Continent. However the plants are regenerating themselves, throwing up long new stems from their bases. These new stems have carried flowers already.

Erica carnea and *E.* x *darleyensis*

Apart from the snow damage to the central stems, the plants in this section came through the winter almost unscathed and gave their usual generous mass of flowers.

Erica ciliaris

E. ciliaris is an example of the Lusitanian flora, so damage in severe winter conditions is to be expected. The Harlow Car plants were severely affected but they have produced some new growth and have flowered well.

Erica cinerea

We did not expect to see so many *E. cinerea* plants affected. 37 of a total planting of 75 were damaged in some degree; however most of the plants have recovered substantially. Unlike the *Calluna* plants, stems of the cinereas, in the areas where the foliage had died, have thrown up new shoots; also new growth has appeared at the bases of some of the dead stems. Many of the damaged plants have flowered freely and should regain their normal shape.

Erica erigena

Twelve cultivars are included in the trials. All plants were severely affected and with the exception of 'Brightness' and 'Coccinea' they have survived. They carry large areas of dead growth but otherwise they seem to be healthy now.

Erica vagans

Of the 20 cultivars in the trial, nine showed some damage; three of these were severely affected. It was apparent that the weight of snow covering had

compressed the outer areas of the plants, the compacted stems forming flat skirts which occupied approximately one quarter of the diameters of the plants. These stems appeared to be dead so it was decided that they should be trimmed off. The "skirts" were removed from a few plants, which have normal shapes now, and are flowering profusely. Surprisingly the "dead" skirts on the remaining plants are in full flower, presenting an unusually flat overall appearance.

Damage Observed on 18th April 1979

Calluna vulgaris

Slight damage:- 'Barnett Anley', Beechwood Crimson', 'Craig Rossie', Firebreak', 'Hirsuta Typica', 'Orange Carpet', 'Peter Sparkes', 'Ross Hutton', 'Silver King', 'Sunrise' and 'Tib'.

Severe damage:-

'Hypnoides', 'Kynance' and 'Radnor'.

Daboecia cantabrica and *D.* x *scotica.*

All plants severely damaged.

Erica arborea

All plants severely damaged.

Erica australis

All plants severely damaged.

Erica carnea

No damage other than splitting of the middle stem.

Erica ciliaris

All plants severely damaged.

Erica cinerea

Slight damage:-

'Caldy Island', 'Cevennes', 'Golden Hue', 'G. Osmond', 'Janet',

'Katinka', 'Knaphill Pink', 'Pentreath', 'Plummer's Seedling', 'Rosabella', 'Sherry', 'Startler', 'Victoria' and 'Violetta'.

Severe damage:- 'Atrosanguinea (Reuthe's variety)', 'C. G. Best', 'Cindy', 'Colligan Bridge', 'Eden Valley', 'England', 'Frances', 'Golden Sport', 'Jim Hardy', 'John Eason', 'Josephine Ross', 'Joyce Burfitt', 'Miss Waterer', 'My Love', 'P. S. Patrick', 'Purple Robe', 'Rozanne Waterer', 'Ruby', 'Seafoam', 'Splendens', 'Stephen Davis', 'Tom Waterer' and 'Velvet Night'.

Erica erigena

All plants severely damaged.

Erica lusitanica

All plants severely damaged.

Erica mackaiana

'Plena' severely damaged.

Erica terminalis

All plants severely damaged.

Erica tetralix

Slight damage:- 'Hookstone Pink' and 'L. E. Underwood'

Severe damage:- 'Helma' and 'Melbury White'.

Erica umbellata

All plants severely damaged.

Erica vagans

Slight damage:- 'Cornish Cream', 'Cream',

'Grandiflora', 'Lyonesse' and 'Pyrenees Pink'.

Severe damage:- 'French White', 'Holden Pink', 'Rubra' and 'Viridiflora'.

Erica x *darleyensis*

Plants unaffected other than splitting of middle stems.

Erica x *stuartii*

Plants unaffected other than splitting of middle stems.

Erica x *veitchii*

All plants severely damaged.

Erica x *watsonii*

'Rachel' slightly affected.

Erica x *williamsii*

Plants unaffected other than splitting of middle stems.

Observations of Recovery on 17th August (by G. P. Vickers) and 29th September 1979.

Calluna vulgaris

All plants recovering and in flower.

Daboecia cantabrica and *D.* x *scotica*

All plants recovering.

Erica arborea

'Alpina' recovering and sufficiently green to show this.

Erica australis

Apparently dead.

Erica ciliaris
All plants recovering and in flower.

Erica cinerea
All plants recovered and in flower.

Erica erigena
Severely damaged, probably dead:- 'Brightness' and 'Coccinea'.
Recovered:- 'Alba Compacta', 'Irish Dusk', 'Rosea', 'Rubra', 'Superba' and 'W.T. Rackliff'.

Erica lusitanica
Dead.

Erica terminalis species and the cv 'Thelma Woolner' both recovering and sufficiently green to show this.

Erica tetralix
All plants recovering and in flower.

Erica umbellata
Apparently dead.

Erica vagans
All plants recovering and in flower.

Erica x *veitchii*
'Gold Tips' recovering and sufficiently green to show this.
'Pink Joy' apparently dead.

[Der Heidegarten, 1979, No. 6, pp 26 - 8 contains a list of 28 cultivars and how they survived last winter in Germany. I am told that it is surprising how well some which come from mild areas survived.
Ed.]

Damage in Members Gardens in the Winter of 1978-1979.

From J. Bridgland, Fareham, Hampshire.

"Erica lusitanica has suffered with burnt tops., This has been especially true of the cultivar 'George Hunt'. The other tree heaths have come through unscathed. *E. australis* is blooming merrily at the moment (Spring 1979). My only losses are *Daboecia cantabrica* 'Praegerae' and 'Alba Globosa' while *D.c.* 'Porter's Variety', although looking sick, will probably recover. The remainder of my Daboecias (and here Mr. Bridgland mentions cultivars of both *D. cantabrica* and *D. x scotica*) are O.K. *E. erigena* cultivars have been blooming well.

I have noticed intensified colouring in (the foliage) of some of the plants, especially *E. cinerea* 'Golden Drop' and 'Windlebrook', *E.* x *darleyensis* 'Furzey', 'Jack H. Brummage' and 'J. W. Porter', *E.* x *watsonii* 'Dawn' and *E. mackaiana* 'Plena'.

[Many people have remarked on the intensified colour of the foliage cultivars and the development of bronze tinges on the foliage of some plants, which are normally green, during the winter of 1978 - 1979. This of course resulted from the plants being under greater climatic stress than normal.

Ed]

From Susan Kierstead, Amherst, New Hampshire, USA.

"We had a very rough winter with minimal snow cover and lots of rain in between. The snow constantly turned to ice and gave more of an ice cover than a warm blanket of snow. The temperatures were down to -10°C a few times, but it was not a particulary cold winter for this part of New Hampshire. Yet all my Callunas came through without any damage. I was really quite pleased with them since I and many others around here lost a lot of perennials."

From Newsletter No. 6 (May 1979) of the Pacific Northwest Heather Society.

"Roy Forster thought his yellow foliage Callunas had been extra hard hit by the past winter. Washington and British Columbia members all agreed that it had been noticeably hard on Callunas, some of which at this writing still are not showing any inclination to come back to life.

Stuart Fraser reports even his more tender species came through well, protected by a snow blanket.

The Knights protect their open beds against early fall and late spring freezing by spraying with water, commencing when the falling temperature has reached 28°F."

From T. A. Julian, Whaley Bridge, Derbyshire.

"In my garden in N. Derbyshire, altitude 625ft., *Calluna vulgaris* 'Ruby Slinger' was very severely affected. Of a group of three plants, two died. *C. v.* 'Darkness' suffered in two locations, one fairly sheltered. All plants were damaged but three out of six had large areas of dead growth. Three plants of *C. v.* 'Nana Compacta' lost half their foliage. Two plants of *Daboecia cantabrica* 'Purpurea' were cut to the ground. Both have sent up new growth and are quite well shaped now."

From G. I. Lumley, Limelette, Belgium.

"I live on high open ground about twenty miles south of Brussels and during the first week of the year my thermometer registered a minimum of -23°C and a maximum of -12°C.

Practically all my plants (Mr. Lumley mentions *Calluna vulgaris, Daboecia cantabrica, Erica arborea, E. carnea, E. cinerea, E. mackaiana, E. scoparia, E. tetralix, E. vagans, E.* x *darleyensis* and *E.* x *williamsii,* but in some cases does not name the cultivars) are no more than three years old. They had been transplanted twice during the spring of 1978 when we moved house. I

was surprised to find that most survived the winter. Losses were limited to *E. erigena* (totally) and my only *E. arborea* 'Estrella Gold' had apparently died but one branch had been battered down and seems to have self-layered and has taken on a fresh lease of life.

I am afraid that of last summer's cuttings only about 5% survived in spite of wintering in a cold frame."

From A. W. Jones, West Camel, Somerset.

"The garden here is fairly sheltered. During the first week of January 1979 the temperature did not rise above 3°C. On four occasions it fell to less than -10°C, and on two of these the mercury reached -12.5°C. Twice during this period we experienced north easterly gales, but these were accompanied by temperatures of about 0°C.

Erica arborea, E. lusitanica, E. x *veitchii* 'Exeter' and *E. multiflora* were all apparently killed by these conditions. (The last named species had had its tips burnt by a frost of -8°C on the 29th November 1978). *E. erigena* cultivars were cut to the ground. *E. carnea* and *E.* x *darleyensis* exhibited some bud drop but were otherwise undamaged. *E. manipuliflora, E. terminalis* and *E. umbellata* were totally unharmed.

The damage was most noticeable in areas exposed to the freezing gales, with *Ecualyptus gunnii* and even *Hypericum calycinum* and *Vinca major* 'Variegata' being apparently killed.

By June it was obvious that *E. arborea, E. lusitanica* and *E. multiflora* were certainly dead. However one plant of *E.* x *veitchii* was shooting from the base and, although severely reduced in size, would again make a good plant. Most of the *E. erigena* cultivars had also made new growth from their bases and would recover to brighten the garden in the forthcoming winter. The exceptions were the *E. erigena* 'Coccinea' which were now but poor weak things and are unlikely to recover sufficiently to make good garden plants again, and a single mature specimen of *E. erigena* 'W. T. Rackliff' which still had unacceptable dead patches on its NE side.

Erica manipuliflora

P. L. Joyner, Totton, Southampton.

Erica manipuliflora grows naturally in the coastal strip of the eastern Mediterranean, from Trieste in the north-west to the Lebanon in the south-east. Its range also extends down through the Balkans to the South-western tip of the Black Sea.

P. Forskaäl named this plant *E. verticillata* in 1775, and this name is still used by some nurserymen. However the name had previously been used for a Cape heath, and we now use Salisbury's name of 1802.

This heath belongs to the same section *(Gypsocallis)* as *E. vagans* and *E. multiflora.* Like *E. multiflora, E. manipuliflora* has the reputation of not being really hardy, and this probably contributes to it rarely being seen in cultivation.

During August 1977 I was kindly given cuttings of *E. manipuliflora* by Mr. Stevens of Maxwell & Beale. The cuttings were subsequently rooted fairly easily, and during the spring of 1978 were potted into 3in. pots and left to grow on through the spring and summer. During the autumn of 1978 three of the plants, then 3in. high, were planted out amongst other heather plantings and left to the mercy of the 1978 - 1979 winter. On occasions during the winter they were subjected to temperatures of -10°C and probably lower. Occasionally some protection was afforded by snow, but often they were exposed to the biting winds.

When spring arrived *E. arborea* 'Alpina' and *E. australis* had suffered split stems and even *E.* x *darleyensis* had dropped many flowers prematurely. The *E. manipuliflora* plants had remained unscathed, and during the months since the winter they have grown and bushed out to some 9in. high and 9in. spread. All have flowered profusely since July, with pink flowers of a shape similar to *E. vagans* but forming more open and longer spikes. They are still flowering at the time of writing (end of September).

Bert Jones of West Camel has also been growing *E. manipuliflora* and not only did his plants survive the winter but they have grown well on his high pH soil, thus living up to their reported lime tolerance.

The evidence so far seems to suggest that *E. manipuliflora* is a worthy garden plant, borne out not only by the above remarks but also by the fact that my own plants have grown more strongly and have flowered better than any of my other autumn 1978 plantings. Reference to *E. manipuliflora* may be found in John Letts's "Hardy Heaths and the Heather Garden", Terry Underhill's "Heaths and Heathers" and Harry van de Laar's "The Heather Garden".

[David McClintock tells me that his plant of *E. manipuliflora,* which came from David Small, came through the winter unharmed in Kent. Nor were David Small's plants damaged in East Anglia.

Examination of the herbarium in the British Museum reveals that the plant is somewhat variable, but is generally similar to *E. vagans.* The plants which seem to be distributed in this country have, as Phil Joyner has pointed out, inflorescences which are rather more sparse and interrupted than those of *E. vagans.* The disposition of the leaves of the two species differ and some plants of *E. manipuliflora* have whitish stems. The flowers of the two species seem to differ only in the length and shape of the style, though this observation is based on close examination of a relatively small sample. Perhaps closer study will suggest that this plant should be regarded as *E. vagans* ssp. *manipuliflora.*

Ed]

Heathers in the Winter of 1962-1963.

(Reprinted verbatim from the Year Book, 1963).

Sir John Charrington, Crockham Hill, Kent.

My garden stands 650 feet above sea level; is very exposed, and was subjected to as much snow and severe

frosts as any part of the country, starting with at least 12 inches of snow on New Year's Eve.

For about 7 weeks my heathers were completely hidden, but towards the end of February when the snow began to evaporate - we had no really wet thaw - a number began to show their heads, and my delight may be imagined when several *darleyensis* and *George Rendall,* which had only been planted in the preceding autumn, actually showed pink flowers through the carpet of white.

I am not conscious of having lost a single plant - in a collection of between 2/3,000 - from frost; but quite a number of taller varieties such as *mediterranea, superba, med. alba* and *Stoborough* had branches snapped by the weight of snow.

This experience has confirmed my enthusiasm for heathers more strongly than ever, for I had not thought it possible for so many plants to survive so exceptional a winter so triumphantly.

I should explain that about half my collection has been planted within the last two years, and all within four years.

The flowering for the early varieties was, of course, delayed, and I think I must admit that the display, when it arrived, was not quite so good as one would normally expect; but I can conclude by saying that they all look now - August 1963 - as if last winter had done them good.

F. J. Chapple, Port Erin, Isle of Man.

The severity of last winter over most parts of the British Isles did not reach to the Isle of Man. There was more snow and frost and cold winds than usual, especially heavy falls of snow in the north of the Island. The south (where I live) escaped the onslaught of a blizzard which swept over Douglas; snow fell only for three days, an east wind was persistent and unpleasantly long, and about 15 degrees of frost were recorded which is high for a small town overlooking the Irish Sea. On the other hand, bright intervals relieved the tension of winter.

From mid-December to mid-March many days had plentiful hours of warm sunshine, with clear skies, the sea translucent to its bed, and the bay of Port Erin as sub-tropical though not as warm as the Mediterranean shore.

The real enemy here is alway wind, in a succession of gales bringing with it lashings of salt spray which is injurious to *Calluna, cinerea* and *Tetralix.* Rarely is a plant lost provided reasonable precautions are taken for shelter. The *carneas* and *hyb. darleyensis,* are never damaged by salt in the wind; one could safely plant up to a thousand on a hillside overlooking the sea. Other species affected get off to a late start because the burned tips are temporarily retarded in developing and not until they are green again does the plant resume normal growth. The check means that new growth and flowers appear later than in England and this applies particularly to *Callunas.* On the other hand, the hybrid *darleyensis* flowered from the first week in December until early in April. The *carneas* followed later in December.

From private gardens and nurseries come reports that heathers came through last winter with flying colours. It is sixteen years ago since there was so much snow and frost in a ten-acre garden north of the Island. Weight of snow broke a few branches of the Tree Heaths but damage done was superficial. All the plants there are thriving as though there had been no winter.

F. J. Stevens, Maxwell & Beale, Broadstone, Dorset.

Nothing could have been more desolate and dispiriting than the sight of Naked Cross Nursery during those icy months at the start of '63. Snow there was in plenty, but it was not allowed to rest as the biting winds came and sent it on its way leaving the heathers and shrubs, large and small, at its mercy. So the black corner of Dorset lived up to its name to the full, and as I struggled sometimes among the plants my feelings were that casualties would be heavy. But after the thaw and the

ensuing weeks, one tried to take stock and saw at once that the dwarf heathers, including the supposed tender *Calluna vulgaris elegantissima* had weathered the storm and were happily alive, cut back it is true but certainly alive and to recover during the summer; all the other dwarf heathers survived without much trouble, but the *Daboecias* looked sick being cut to the ground and some did not recover. Others to suffer were the Tree Heaths which were harmed more through the winds than the snow, notably *lusitanica Veitchii(sic),* which was badly hit, on the other hand *arborea alpina* was untouched, a wonderful hardy species.

J. H. Brummage, Taverham, Norwich.

We here in Norfolk suffered rather extensive damage during last January and February, having practically no snow. All Tree Heaths (except *arborea alpina* and one mature *australis* of several dozen, 5 feet high), many hundreds of immature plants and rooted cuttings in cold frames were killed.

Leslie S. Slinger, Slieve Donard Nursery, Co. Ltd., Newcastle, Co. Down, N. Ireland.

Heathers were entirely unaffected here in this nursery; indeed, generally speaking we have to make the odd report that the winter of 1962 was much more severe than the winter of 1963. We can say that in spite of huge losses in other nursery stock, our heathers were entirely untouched.

Review of Winter Experience

Only two people out of the five who contributed to the review of the winter of 1962 - 1963 reported any frost damage, and with them, it was limited to Daboecias and tree heaths among mature plants. Far more damage was reported for the winter of 1978 - 1979, though once again

some escaped unscathed. It is tempting to conclude that the past winter was harder than that of 1962 - 1963, but meteorological records show that this was not the case and hence we must look for other reasons.

That different people's experiences were so disparate is not surprising. Under seemingly identical weather conditions exposure may be far more severe in one garden than another. Furthermore a number of factors can affect a plant's well-being and hence its ability to withstand very low temperatures. These include the amount of sunshine and rainfall that the plant has received during the previous growing season, the nutrient status of the soil and the availability of the necessary trace elements. Previous fungal or insect attack can also be important here.

I do not think that we should be surprised that there were some reports of damage to Lusitanian species, which occur naturally in areas having mean winter temperatures of not less than 5°C. However it is good to note that their hybrids with *E. tetralix* were undamaged; the purely Lusitanian hybrid *E.* x *veitchii* unfortunately suffered badly. At first sight it may seem peculiar that *E. cinerea* and *Calluna vulgaris* should have been damaged, but here it must be remembered that the cultivars we grow in our gardens have been selected by man. Even when grown under perfect conditions, they may not be as capable of resisting the rigours of the weather as well as wild populations.

Let us now consider the mechanisms by which cold may damage plants. The first of these is by freezing sap and the fluid within the cells of the plant. The resulting expansion may cause the stems and/or the cell walls to split. The intensity of this form of damage will depend on both the temperature and the time for which it persists. Obviously unripe wood is most susceptible to this form of damage. Young plants may continue to grow later in the season than mature specimens and hence have unripe wood when freezing occurs. In 1978 higher than normal

temperatures persisted up to the end of November in some districts and thus plants may have had unripe wood late in the season.

A second form of damage may occur when moisture is drawn from the leaves which the plant is unable to replace in the normal way as the soil water is frozen. The conditions which produce this form of damage are strong winds after frost, which by its intensity and/or duration has penetrated to the full depth of the root system of the plant. It is probable that tall plants will be particularly affected in this way, as the wind speed increases very rapidly in the first foot or so above the ground. This may explain why *E. erigena, E. arborea, E. lusitanica* and *E.* x *veitchii* fared so badly during both 1962 - 1963 and 1978 - 1979, while the results of Sakai and Miwa (1) on cold alone suggest that they should be as hardy as most other species of European *Erica.*

Plants covered with snow are insulated from the most extreme cold and will have a better chance of escaping damage.

During the winter of 1978 - 1979 plants possibly carrying unripe wood were exposed to very low temperatures. In some areas there was little or no snow cover and the position was made worse by strong, cold, drying winds. Under these conditions damage was almost inevitable. This may contain lessons for us. First perhaps we should consider the practice of many continental growers and cover some of our tenderest treasures during periods of intense cold in order to avoid (temporary) damage. Secondly, it may be wise when planting some of the taller heathers to ensure that they are protected from the full force of the north-east winds.

This may have seemed rather depressing but probably the most significant point that has come out of the reports of winter damage is that most of the plants which were damaged during the winter have recovered during the summer. The use of the adjective "hardy" to describe our European heathers has again proved to be well justified.

Reference

1. Sakai, A. and Miwa, S., Frost hardiness of Ericoideae, *Journal of the American Society of Horticultural Science,* 1979, Vol 104, No 1, pp 26-8.

Heather Gardens No. 6
Champs Hill, Coldwaltham, Sussex.
Maj.-Gen. P. G. Turpin,
West Clandon, Surrey.

If you drive down the A29 through Pulborough on the way to Bognor, you come to a small village named Coldwaltham, and if you turn to the right just past the village along a side road in the direction of Fittleworth, you will soon come to Champs Hill.

A sloping drive climbs up to the house. On the left is a high bank, falling away from the higher part of the garden, which in August is a blaze of colour - mostly *Erica cinerea* - and in spring sparkles with the flowers of the tree heaths - *E. lusitanica, E.* x *veitchii* 'Gold Tips', *E. australis* and *E. arborea* 'Alpina'.

On the right a rich collection of winter and summer flowering heathers has been planted together with a number of other choice shrubs; prostrate Junipers, *J. scopulorum* 'Blue Heaven', *Photinia* 'Red Robin', Japanese Privet (*Ligustrum japonicum* 'Macrophyllum') and many others.

As you approach the house the bank on the left gives way to a stone wall, where you may see such plants as *Fabiana imbricata, Ozothamnus rosmarinifolius* and a number of Rosemary and *Hebe* species.

The west wall of the house supports a mature plant of *Cytisus battandieri* and the gold-flecked Ivy, *Hedera helix* 'Goldheart', and the entrance is flanked by large clumps of Hydrangeas and Fuchsias in elegant containers.

The house, a beautifully designed bungalow, stands on a small hill, some 150 feet above sea level, just off the line of the old Roman road, Stane Street. Through a picture-window facing south there is a magnificent view over the Arun valley to the South Downs.

When the Bowermans acquired the 27 acre site20)

years ago, it was a mixture of woodland and wild heath consisting mainly of Oak, Scots Pine and Silver Birch with gorse and heather covering the open spaces. Two large sand quarries, which were still being worked up to 1910, but are now well clothed with vegetation, break up the contours of the estate. Around the house, which was built in 1961, a garden of about an acre has been brought into cultivation and this merges into woodland plantings and semi-wild stands of heather.

The soil is light and sandy, with very good drainage: ideal conditions for *E. cinerea.* There are not many places where Bell Heather grows better than here, where the large spreading plants, with thick, healthy foliage, are covered with long spikes of flowers which seem to glow with more than their usual brilliance. The golden-foliage forms do particularly well in this garden and 'Golden Drop' (notoriously difficult on some soils), 'Golden Sport', 'Golden Tee', 'Constance', 'Apricot Charm' and 'Windlebrooke' are all perfectly at home.

In the hot, dry summer of 1976 there were many losses, but these were quickly made good from the Bowermans' nursery area, where several thousand young plants are raised each year.

To prevent heathers and other plants drying out in such a light soil, a thick mulch of spent deep-litter from a near-by riding-school is regularly applied, which is clearly of great benefit to the plants.

The garden has been designed with great skill by blending the beauty of a wild heather moor with the more sophisticated planting of selected specimens in more formal arrangements.

Good use has been made of stone and water in the construction of the lay-out and there is a charming water-garden on the south side between the house and one of the sand quarries with many choice moisture-loving plants growing between the heathers.

You will find most of your favourite heathers at Champs Hill. Of the Bell Heathers *(E. cinerea),* in addition to the golden forms already mentioned, 'Cindy',

'Pentreath', 'Old Rose', 'Sandpit Hill', 'Mrs. Dill', 'Snow Cream' (with its unusual foliage), 'Joyce Burfitt', 'Eden Valley', 'Knaphill Pink', 'Sherry', 'Stephen Davis', 'C. D. Eason' and many others make a wonderful display in early August.

One happy result of the mixture of wild heathers with a wide range of selected cultivars has been a rich crop of *E. cinerea* seedlings, many of which are well worth a place in any collection of heathers. Some are far superior to many of the cultivars which have been too hastily given names. Wisely the Bowermans have left many of these to flower where they have seeded themselves and they add much to the general effect.

There are many varieties of *Calluna, Daboecia, E. vagans* and the winter-flowering species and their hybrids are well represented. *E. umbellata* grows and flowers well and does not appear to suffer much from cold weather on this soil.

All the tree heaths are happy at Champs Hill, and there is plenty of space to grow them properly in their right perspective. *E. arborea* 'Alpina', *E. lusitanica, E.* x *veitchii* 'Exeter', 'Gold Tips' and 'Pink Joy', *E. australis* 'Riverslea' and *E. terminalis* are all here and a suitable spot has been chosen for *E. scoparia* 'Minima'.

Many other plants help to complement the heathers. A good number of Scots Pines and Birches have been retained and there are extensive plantings of Rhododendrons and Azaleas. Dwarf conifers and other low growing shrubs have been used to add variety to the overall picture.

One particularly happy grouping on the edge of a woodland area includes several plants of *Lonicera nitida* 'Baggessen's Gold', *Euphorbia griffithii* 'Fireglow', *Cassinia fulvida, Cupressus glabra* 'Conica' and *Acer japonicum* 'Aureum' interplanted with *Calluna* 'Serlei Aurea'. The grey and golden foliage lightens the more sombre colouring of the woodland trees.

Among the dwarf conifers *Chamaecyparis obtusa* 'Tetragona Aurea' *C. pisifera* 'Snow', *Juniperus scopulorum'* Table Top Blue', *J.* 'Grey Owl', *Sequoia sempervirens* 'Adpressa' and *Thuja occidentalis* 'Sunkist' are some of the choice specimens.

Berberis thunbergii 'Aurea' and 'Rose Glow', *Potentilla fruticosa'* 'Day Dawn' and 'Knaphill Buttercup' and a number of Hebes all play their part in the pattern of colour.

There are Water Lilies in the pools and Royal Fern *(Osmunda regalis)* grows on the margins with *Crocosmia, Mimulus* and *Lithospermum* adding splashes of brilliance.

Everywhere dwarf *Cyclamen,* which readily seed themselves, provide a charming and colourful carpet under the trees from early August onwards.

This is a garden which is well worth visiting at any time of the year,; but to see the winter-flowering heathers at their best I would choose the first half of March; and the middle to the end of August is the time to see the full splendour of the Bell Heather and the early forms of Ling, to be followed in September by the full flowering of the best *Calluna* cultivars.

Members of the Heather Society, of which Mr. and Mrs. A., H. Bowerman are both founder members and indefatigable supporters, may visit the garden at any time, by appointment. The Mid-Southern Group of the Society has from time to time arranged visits and in 1975 those attending the Annual Conference at Moor Park enjoyed the hospitality of Champs Hill and its kindly owners.

The garden is open to the public on two days in May, when the Rhododendrons and Azaleas are at their best, and on two weekdays in August as part of the National Gardens Scheme.

An Evergreen Garden in Essex

Dorothy Goode, Thorpe Bay, Essex.

Essex with its mainly clay soil, is not a county one normally associates with ericaceous or lime-hating plants. Therefore, perhaps one of the surprising features in this garden is the number of acid lovers such as Rhododendrons, Azaleas, Pieris and heathers which have been persuaded to flourish. Add to poor soil the inherited concrete remains of a wartime gunsite only an inch or two below the surface in parts, and you have quite a problem on your hands.

Liberal quantities of peat and leafmould both as planting medium and for mulching seem to be the answer to the soil problem, while a pick-axe is the necessary implement for beating the concrete menace every time a decent sized hole is required. All our trees and bushes have been planted in this manner, happily with almost total success.

When we arrived here 17 years ago the plot attached to our new bungalow contained nothing but fence-high weeds, so the first step was to clear these and lay turf over the entire area of nearly 1/3 of an acre. A narrow border was made around the lawn and this was quickly filled with anything that would help cover those awful bare fences. I clearly remember our very first purchases - six tiny Lawson's cypresses, which are now over 20ft. high.

Most of the temporary fillers have been discarded over the years in favour of more choice and permanent residents. Inevitably roses played their part in those early days, filling three very square and uninspiring beds beyond the lounge windows.

This ordinary scheme remained little changed until one special day in August ten years ago, when I happened to visit a superb heather and confier garden in Surrey. I was completely captivated and it wasn't long before the roses found new owners and the square beds

had been transformed into gently curving islands, a suitable setting for the tiny heathers and conifers, soon to be introduced.

My first three island beds were filled with some of the best known heathers with up to ten of any one variety planted in a group for maximum effect. Equal consideration was given to the positioning of colourful foliage varieties next to plainer green ones.

Calluna 'Gold Haze' with its ever-yellow foliage contrasts nicely with *Erica vagans* 'Mrs. D. F. Maxwell' whose dark green is enlivened with enchanting cerise-red blooms in August and September. Next to her is *Calluna* 'Cuprea', a charming shade of bronze for much of the year. In the centre of *C. v.* 'Gold Haze' I have planted the dwarf conifer *Picea glauca* 'Albertiana Conica' and here again the green and yellow look good together. *Calluna* 'Robert Chapman' has bright red foliage in winter, but the paler orange leaves of summer are sheathed beneath mauve flowers, and he is planted next to *E. vagans* 'Lyonesse' whose large spikes of bloom are white.

In the bed directly opposite the lounge window I have a large group of *E. carnea* 'Carnea'. This blooms from January onwards and is the loveliest shade of deep pink. *Thuja orientalis* 'Aurea Nana', a dwarf conifer which is bright gold in the summer, provides the contrast for this particular group.

The Carneas are perhaps the easiest of all heathers to grow, especially for those with difficult soil. I soon found this to be true when years ago at the start of my heather mania I edged a large rose bed in the front garden with several different varieties, including the very early 'Eileen Porter', deep pink 'Loughrigg', 'Pink Spangles' and white 'Snow Queen'. Despite the heavy clay mixture in which they have survived, these all bloom prolifically each year and have made large clumps spreading over the driveway and giving a pretty, softening effect to the concrete. The carneas were of course planted with peat and have been regularly mulched each year, but when I decided to part with the

roses and give the bed over entirely to summer flowering heathers, a lorry load of fine top soil was purchased to help give them a good start. This I spread over the bed, making slight undulations here and there to break the flatness and thus add interest.

This particular bed has been a great success, providing year-round interest and inspiring delightful remarks from even non-gardening callers. Foliage cultivars such as *C.v.* 'Beoley Gold' and 'Golden Feather' are colourful every month of the year and planted next to *E. cinerea* 'My Love' with its gorgeous amethyst flowers in summer, they provide a most satisfactory contrast. The very long flowering *E.* x *watsonii* 'Dawn' also adjoins this group and can be relied upon to provide pink blossoms from July until late into the autumn. This is an easy plant to grow but it does seem to do even better in damper summers. Another easy plant is *E. erigena* 'Brightness', which I have added to give a little height to the planting.

I wonder how many small private gardens have a specimen of *E.* x *veitchii* 'Gold Tips' which has attained over 12 feet in ten years? Since most books quote six to eight feet, I can only assume that my particular plant is thoroughly enjoying its site in a most sheltered position at the side of the bungalow, protected further by other shrubs and trees, and ultimately the fence. Although said in one well-known book to be "poor flowering", this has not been my experience and I can always enjoy quite a long season of sweet-smelling white flowers.

My favourite in the early spring however is *E. erigena* 'Superba'. This also grows well here, even in very cold winters, and fairly substantial falls of snow have failed to cause damage either to this species or to the tree heaths. I find this particular pink very pretty and it is a plant which blooms for a very long time here, on specimens which have reached some six feet after about ten years growth.

For winter foliage colour, I have found one of the most interesting and eye-catching plants has been *E.* x

darleyensis 'Jack H. Brummage'. This has spread well over about three or four years, providing a beautiful yellow carpet, but I am intrigued to know why it is so loathe to bloom in this garden, since it is reputed to prefer "heavier, richer soils". Perhaps it is the richness that is lacking.

[The earlier part of Mrs. Goode's article was first published in "Popular Gardening" and we acknowledge their permission to reprint it here. The later part of the article was specially written for this Year Book.

Ed.]

Should We Manure Our Heathers?

Curt Brose, Bremen, West Germany

When we see heathers doing better in a neighbour's garden, we naturally ask "why?"

I have read various articles in the publications of the English and Dutch Heather Societies, which discuss why heathers may not be doing as well as they should. So I was very surprised, when I asked members at our meeting in Hamburg in January, that none of them had any such problems. So the following thoughts could well have remained unwritten, were I not of the opinion that one or other of us does indeed have problems with his heathers.

There are certainly many different reasons why heathers do not grow or flower as well as one could wish, or as well as one has seen them growing elsewhere. The cause could be unsuitable soil, fungal diseases, animal damage, too much shade etc.

Here I should like to concentrate on the question of manuring.

Time and again it has been written that our garden forms have been selected from wild heathers and so, like wild heathers, need no manure. But, against that, I think that there is a difference: wild heather selects its own suitable habitat, while we plant heathers in our gardens in

positions which are convenient to ourselves. It is true that we try to prepare the best soil for the plants, but are we always successful? In the wild, heathers live in symbiosis with soil fungi, the so-called mycorrhiza. These fungi enable heathers to take up the necessary nutrients from the poor soil of their natural habitat. Professor Burgeff discovered that *Calluna* grows very poorly without mycorrhizas on nutrient deficient moorland. But he also found that *Calluna* did well if nitrogen was added, even without symbiotic fungi.

It is difficult for the layman to find out if the heathers in his garden are living symbiotically with mycorrhizas. It is probable that plants which we buy from nurserymen have no mycorrhizas because they have been grown in sterilised compost.

This means that we must either introduce mycorrhizas into our gardens, or, if our soil does not contain enough nutrients, we must use manure.

We can try to introduce mycorrhizas by collecting wild heathers with a large enough ball of earth round their roots and planting them for one or two years among our garden heathers. Is it enough to bring in just the earth from around the roots of wild heathers? Whether the mycorrhizas will settle permanently in our gardens depends, naturally on the soil. Thus Krüssman in his German translation of van de Laar's book, pp11 - 12 speaks of "inoculating" the soil with symbionts, and Underhill devotes a passage in his book to fungal symbiosis and says that these mycorrhizas are to be found even on the seeds of heathers. In earlier days gardeners brought in soil from established colonies of heather for their new beds and their cutting composts, to ensure that this fungus was introduced. And Herr Apel, in the German Heather Society Newsletter No.3, p 5, also draws attention to the connections between *Calluna* and mycorrhizas.

Attempts have been made in England to grow *Calluna* with and without mycorrhizas: on poor soils, plants with mycorrhiza had 30% more dry weight than

Callunas without them. In particular, these root fungi enable the Callunas to take up nutrients, such as calcium and phosphorus.

The alternative is manuring. A soil analysis is the first requirement for finding out what nutrients are available. But so far as I know, these standard analyses give no indication of the presence of trace elements such as iron, manganese, molybdenum etc.

The School and Experimental Station for garden design at Hogen Kamp is undertaking trials on manuring Callunas. I will try to obtain the results and later to publish them.

Opinions differ widely about what manures, and how much, to give. The following short extracts show what the experts say:-

Herr Westermann (Catalogue '78)	Organic, but with moderation when planting.
Herr Kircher (German Heather Society Newsletter No.2, p 12)	Organic (hoof and horn, Oskorna) when planting
Herr J. Schröder (GHS Newsletter No.4, p 15)	Manuring does more harm than good.
Dr. Heft (Director of Botanic Gardens, Bremen)	Manures with rotted cow dung.
T. L. Underhill (Heaths and Heathers 1971)	Regularly with organic and inorganic fertilizers.
H. van de Laar (The Heather Garden , 1978)	Rotted farm-yard manure, peat compost, with special attention to trace elements.
The Proudleys (Heathers in Colour)	Organic and inorganic, but, especially for older plants, no stable manure.
Adrian Bloom (Heathers)	Manuring not essential.
G. Yates (Heather-Gardening)	Organic (hoof and horn, dried blood and bone meal) but sparingly.

I have heard that in England great use is made of leaf-mould. Without doubt you will hear and read many other bits of advice on the subject. A friend of mine in England once told me that the "burning" on yellow-foliaged

plants was not caused by the sun but by chlorosis and lack of nutrients.

It will be of great interest to hear of the experiences of other heather growers in the use of manures and fertilisers.

To return once more to mycorrhizas, in spite of strenuous efforts, I have not been able to find out whether trials have confirmed that there is a possible antagonism between *Calluna* with its fungal partners and *Phytophthora cinnamomi.* But I am not aware that wild *Calluna* suffers from this destructive fungus, [Don Richards and others, alas, know only too well that it does! Ed.] and since there is no known chemical treatment that is effective (at least as a preventative), possibly the introduction of mycorrhiza might help.

But as I have said before, if you are satisfied with your heathers, you can forget what I have written.

Postscript

The above article was written in early autumn 1978. This was the end of a disastrous heather year for me, with three quarters of my plants dead or crippled. Unidentified fungi were obviously responsible for this and I believe that *P. cinnamomi, Botrytis cinerea, Glomorella cingulata* and perhaps some others were the culprits. Not having manured the plants, heavy rainfall and insufficient drainage added to the disaster.

Doubtful about the best remedy I consulted the books available, and this resulted in my original article. Finally I decided to take a chance in 1979. First I improved the drainage, added more sphagnum moss peat and replanted about 600 square metres with new plants. Although I had also added about 24kg of organic manure (hoof and horn etc.) when I prepared the bed, I applied a soluble fertiliser (14%N, 7%P_2O_5, 10%K_2O, 1% MgO plus trace elements) twice weekly during the months of June and July at a rate of 5 litres of 0.2% solution per square metre. To avoid "burning" of the leaves by the

fertiliser, I afterwards rinsed the plants thoroughly with clean water.

In order to try to prevent re-infestation by fungi, I started to treat the heathers with fungicides. I used - each week alternately - the chemicals Thiram (TMTD), Euparen (dichlorfluanid) and Ferbam. I started this treatment in mid-May when the weather became warm and the humidity was high, and continued it until the middle of October. This year I have won the battle and have been rewarded with the most beautiful heather garden I have ever had.

I believe that the combined use of fertilisers and preventative fungicides account for the success. Nevertheless I am reluctant to recommend my method generally to other gardeners: circumstances, climate and soil conditions may require different measures. Last but not least the fungicides I have mentioned do not kill *P. cinnamomi* nor cure plants infected by that fungus. However I am led to believe - and an article received through the courtesy of Mr. van de Laar (1) reinforces my opinion - that not all the damage which is attributed to *P. cinnamomi* is in fact caused by that fungus.

In terms of cost I have spent less than DM 200 (about £50) on fertilisers and fungicides, and it required an hour's work each week. This is little compared with the cost and work of replanting 600 square metres with new heathers. Once again I would say, if you have problems with your heathers take a chance, like me!

REFERENCE

1. Caron, J. E. A., "Ziekten en plagen in *Erica* en *Calluna*", *Groen*, 1978, No. 10, pp. 399 - 400

[Herr Brose's article first appeared in "Der Heidegarten" No.5 (the Newsletter of the German Heather Society) and the translation is printed here by kind permission of the author. His postscript is published here for the first time.

Herr Brose mentions the fungicides Euparen and Ferbam. The first of these is known in this country as Elvaron. Ferbam (dimethyl dithiocarbamate) is sold in this country under the name of Mancozeb.

Herr Brose has sent me coloured photographs of his garden which certainly testify to the success of his methods.

Ed.]

Book Reviews

de la Rochefoucauld, Bernard, **Les Guides Rustica, "LA BRUYÈRE"**

Dargaud, 1979
96 pp. 16 colour plates.
ISBN 2 - 205 - 01605 - 9

This excellent little hand-book on heathers, which is the first of its kind to be published in France, follows the well-known pattern of similar books written in English and Dutch in recent years. The first 42 pages consist of a number of chapters dealing with general information about heathers, their cultivation, propagation and after-care; there are sections on the design and planting of heather beds and suggestions for growing other plants which associate well with heathers. The remaining 54 pages contain descriptions of the various species and cultivars of hardy heathers which are available today. For the most part the nomenclature and classification used by the author is entirely up-to-date.

Bernard de La Rochefoucauld writes largely from his own experience, having grown a large proportion of the heathers described in his large garden at Ingrannes, near Orléans. He is a member of the Heather Society and is described by his published as the No. 1 Heather specialist in France. In writing his book he has made full use of his many contacts in this country and in Holland and Germany. His short descriptions of the various species are first class.

The system of numbering the named cultivars from 1 to 6 in order of excellence is most helpful. By selecting all the varieties marked "1" (excellent) the beginner would have a garden containing 32 different heathers of eight species, which would give him colour all the year round and as varied a selection as anyone could wish for. These are, of course, subjective assessments and everyone would not agree with them all. We all have our own personal preferences. *"Quot homines, tot sententiae".* Nevertheless, I was sorry to see that

Calluna vulgaris 'Multicolor', *Erica ciliaris* 'Aurea' and *E. mackaiana* 'Dr. Ronald Gray' could do no better than "6" (mediocre).

The Heather Society Colour Chart is included among the coloured plates and is most useful, when one is studying the descriptions. The photographs are mostly very good, although in some cases, particularly the *E.* x *darleyensis* hybrids, the colour does not do justice to the plants.

There are, understandably in a book of this sort, a number of misprints which have escaped the net of the proof-reader, but no doubt these will be corrected in subsequent editions. The accepted practice of using capital initial letters for each word of a cultivar name has been followed in the early part of the book but not in the descriptive section.

These are, however, very minor criticisms, and although there is not much in the book which is not available to English readers in other publications, it will undoubtedly fill an important gap in French horticultural literature; and it should prove a boon to French heather enthusiasts, who will find in it all they need to know, in order to create their own heather paradise.

P.G.T.

Knight, Frank P.,

Wisley Handbook 3, "HEATHS and HEATHERS"

London, The Royal Horticultural Society, revised 1979
40pp. 6 black and white photographs, 4 line drawings, bibliography
ISBN 0900629 17 7
90p

This booklet seems to be directed towards those who, though they may have experience of other forms of gardening, are new to heather gardening. It contains advice that I have not seen given in other books on heathers and this should make it of value to those with some experience of this group of plants.

The chapter headings are Heathers in nature,

Heathers in the garden, Planting, After care, Propagation, Pests and diseases, Choosing heathers for the garden, Shrubs to use in the heather garden and Books on heathers. The first chapter is very brief. The second deals well and in detail with site preparation and design. The chapter on planting contains excellent advice on dealing with container grown plants.

After care is well treated. The section on propagation covers seed (though little of value is said on this subject), layering and cuttings. Details are given of several methods of rooting cuttings, but no mention is made of the equally important subject of transforming rooted cuttings into well formed little plants.

The chapter on pests and diseases is brief and deals mainly with *Phytophthora cinnamomi* and *Armillariella mellea* (Honey Fungus), which is described as ""the most dangerous of all soil-borne parasites". The advice given is sound, but does not extend to the precautions which should be taken to prevent the introduction of disease into an uninfected garden.

The chapter on choosing heathers for the garden opens with a section on species and natural hybrids. This covers *Calluna, Daboecia* and *Erica,* though several species and hybrids are omitted from this section. The short descriptions are well supported by line drawings by Jill Cox of *Calluna, D. cantabrica* and five species of *Erica.* The second section of this chapter consists mainly of a descriptive list of cultivars. This revised edition has departed from the practice of the two earlier editions in that it does not limit the list to those cultivars which have received RHS Awards. Some of the more recent introductions which have performed well at Wisley are included. This has restricted the list to manageable proportions for this modest volume and ensures that all the plants mentioned have some merit. However, inevitably some very worthwhile plants are missed.

Despite the detailed criticisms this book can be

recommended. If a beginner followed the advice contained in its pages he could produce a heather bed or a heather garden that would give him pleasure. It could, with benefit, find a place on the shelves of those more experience. At 90p it is excellent value for money.

A. W. J.

Nelson, E. C. and Brady, A. eds.

Irish Gardening and Horticulture

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This memorable production consists of 235 large pages with 17 essays on varied aspects of the horticultural scene in Ireland, and includes even a long one on wild flowers. All are good, some outstandingly so. There are numerous illustrations, eight whole pages in colour, some of the black and whites pallid. References to heathers are few, but proportionately fair. Our member, Dr. Nelson, the taxonomist at Glasnevin, has researched in depth the history of the wild ones and what he writes can be relied on. But I wonder if he too had doubts on the validity as wild of the record of the single plant of *E.* x *watsonii?*

In later chapters, a lengthy paper on the wild heathers of Ireland is misquoted - 'Irish Salmon' is never a form of *E.* x *stuartii (praegeri).* (Of Dr. Praeger there is a new photograph, but not much else - no mention of his classic monographs on *Sedum* and *Sempervivum,* or his other perennially valuable writings.) Sadly the story that Miss Wynne found 'County Wicklow' was later discredited, and we still do not know who found this fine double *Calluna.** There are indeed "more than 500 species of *Erica* in South Africa", but it would be more impressive, and accurate, to substitute 607! Nor was the

craze for them exactly short-lived, when it lasted for 100 years or more. "A few of these species can still be seen in milder Irish gardens, such as *E. taxifolia* and *E. pageana",* of which there is a coloured illustration.

But do not read this attractive book for its heather lore. Read it, from cover to cover, to learn some of the wealth of interest there has been, and is, in the Irish gardening world. The soft-bound version weighs a kilo; better however get it hardbound, (the prices, include postage and packing). This enterprise had, rightly, the support of two trusts and one fund and a score of firms and private benefactors. Those who support it further by buying it, will not regret it; it may even lure them across St. George's Channel. The contributors and editors are to be warmly congratulated.

D. McC.

* The identity of the discoverer has just been discovered. It will appear in a note by Dr. Nelson in the Irish Naturalists Journal later this year.

Ed.

The Bud-Flowering forms of *Calluna*

Maj.-Gen. P. G. Turpin,
West Clandon, Surrey.

In his monumental work on *Calluna,* a monograph on the Scotch Heather, published in English in Amsterdam in 1940, W. Beijerinck includes descriptions of all the then known deviations of Scotch Heather or Ling. Dried specimens of a number of these can be seen in the Kew Herbarium.

In Holland some of the commoner deviations are in the various forms of "Bud-flowers", as he calls them, (Dutch "Knopbloeier" or "Knopbloemen", German "Knospenblüher"): a very apt name for these forms of *Calluna,* whose flowers never develop beyond the bud stage, but as a result keep their colour for an extra long time.

Until recently the only two recorded cultivars of this form found in the British Isles have been 'David Eason' and 'Underwoodii', both of which have proved

themselves to be useful garden plants, particularly as they retain their colour so late into autumn and winter, because the flowers never open and consequently are not fertilised.

Recently Dr. Ir. T. Visser found a number of these bud-flowering plants in Holland, on the Ginkelse Heide near Arnhem, not far from Nijmegen, where Beijerinck said that they were commonly found. He named these 'Marleen' after his wife, 'Marilyn' after his daughter and 'Adrie' after the daughter of Mr. W. Halboom who distributed these heathers; and two others - 'Ginkel's Glorie' and 'Visser's Fancy'.

All these plants appear to belong to the forms *clistanthes, diplocalyx* and *polysepala,* described by Beijerinck.

'Marleen', like 'David Eason' and 'Underwoodii', has neither stamens nor a corolla, but has eight sepals instead of the usual four; hence the name *diplocalyx.* Herr Kramer, who has a very fine heather nursery and show-garden at Süddorf, near Oldenburg in Germany, has taken some superb photographs of the flowers of 'Marleen', which illustrate perfectly the details of this form of aberration *(Plate IV).* 'Ginkel's Glorie' and 'Dunwood', a plant recently found in Staffordshire, also belong to this form.

The form *polysepala* similarly lacks stamens and corolla, but has more than eight sepals and usually a rather deformed style and stigma. To this form belong 'Adrie' and 'Marilyn', both of which have smaller flower-buds than 'Marleen'.

The third form, *clistanthes,* (meaning "with shut flowers"), includes 'Visser's Fancy'. Plants of this form have all the normal flower parts, including stamens and corolla, but probably because of a stunted style, never, or only occasionally, open their flowers.

Five other un-named plants have been found by me in the last two years in Cornwall and the Peak District, three of the form *diplocalyx* and two of the form *clistanthes.* And a plant was also found by the late Miss

Waterer in Cornwall in 1957 and labelled "Trink II". This is a *diplocalyx*. Finally, a specimen in the Oxford Herbarium, found at Perranwell, near Devoran by F. H. Davey on 28th September 1911 and seen by David McClintock in February 1979, has been identified as a *diplocalyx*.

Perhaps these forms are more common in the British Isles than has been supposed. They are easily overlooked. The best time to spot them is late in the season, when the normal forms of *Calluna* have mostly lost their colour.

I am grateful to Harry van de Laar for letting me see herbarium specimens of the Dutch plants, and to Herr Kramer for his photographs.

Calluna 'Elegantissima Walter Ingwersen'

David McClintock, Platt, Kent.

In March 1928, the late Walter Ingwerson (who founded the fine firm bearing his name in the same year) collected a heather at 1000 ft in the Minho mountains north of Coimbra in Portugal. He very descriptively called it *Calluna* 'Elegantissima' - possibly also in allusion to the varietal name Father Sennen published the following year, *elegantissima*. The description of that includes "elles ne fleurent que sur le tard de l'automne .... corolla d'un violet ravissant plus ou moins claire". That seems to be widespread in the Iberian peninsula and may be the only form in Morocco.

Mr. Ingwersen well described his own plant as "of truly elegant habit and develops immensely long flower spikes, frequently more than a foot in length and sometimes as much as 18 inches. These graceful spikes are loosely set with pretty lilac-pink flowers . . . . . produced from October to December". It received a Preliminary Commendation on 24th October 1937, and was widely grown. I had it for some time, and remember it well from before the war. Its flowers are H8, pale pink, (rather than H2). There are specimens in the herbaria at Kew and Wageningen.

The Achilles heel of this plant was its not being reliably hardy, and by some time in the 1960's it seemed to be no longer known anywhere - even Ingwersens did not have it. In an attempt to get a hardier substitute, Mr. Will Ingwersen propagated what he thought were hybrids of it in Mr. Pilkington's garden, Tremans, at Horsted Keynes - hence the cv name. It proved however to be very ordinary and was soon given up.

In the last ten years or so, I have been shown, sent, seen, many plants purporting to be Walter Ingwersen's, but none were. Most had earlier, darker, thick-set inflorescences, totally lacking ethereal gracefulness: I daresay most were in fact the same plant: some were 'Tremans'.

It seemed certain therefore that the original had been, most sadly, lost; until at the RHS Show on 9th October 1979, small plants of undoubtedly the real thing were seen for sale on Ingwersen's stand. (As so often, if one is in doubt of a plant's identity, it won't be that: if it is right, one recognises it at once). It proved that Mr. Will Ingwersen had received material two years ago, and here were the first results. A plant was shown that afternoon to the Scientific Committee; an extremely welcome resurrection.

So, now there need be no doubt about this distinctive and decorative heather - but please give it protection in hard winters. After all, Fred Chapple called it "without doubt the most beautiful and certainly the most graceful heather I have ever seen".

But, where had Mr. Ingwersen obtained it? The answer is from Mr. G. Yates of Tabramhill Gardens, who got it from Mr. G. Hamer, late of Sunnymount Nurseries, who had it from Walter Ingwersen himself. And none of us seem to have realised this!

Finally, the name. 'Elegantissima' is the correct name for a white-flowered *Calluna,* widely grown on the continent since at least 1906. Ten years ago Mr. van de Laar found that another white plant was also being

cultivated under this name. So that was rechristened 'Elegant Pearl'.

Neither of these 'Elegantissimas' were then known in Britain. Nevertheless the Ingwersen plant also needed distinguishing. Consequently, also about ten years ago, Mr. Will Ingwersen proposed extending ours to include his father's name, despite the inevitable length. But it informatively connected the original name with its discoverer, just like 'Minima Smith's Variety' etc.

Since 1959 however, new cultivar names may not be in Latin form. There has been much discussion recently whether this enlarged post-1959, name is a new one - the Latin part is not. Furthermore this is the name that has been taken up universally and unambiguously for many years now.

However, our President, who is also Chairman of the Committee for Nomenclature and Registration of the International Society for Horticultural Science, takes the view that this is a new name and so illegitimate. In deference to so high an authority therefore, it is proposed that the, original, offending 'Elegantissima' part of the name be dropped and the plant known as simply 'Walter Ingwersen'. Will Ingwersen is content with this.

Erica sicula

David McClintock, Platt, Kent.

One of our more learned members remarked that he knew nothing about *Erica sicula.* It seems he is not unique, so an account may be useful.

This was discovered by G. Gussone and described by him (1821) from Sicily (hence *sicula).* But only 17 years later Klotzsch (1838) created the genus *Pentapera* for it, on account of its floral parts being usually in 5's - the name means "five bags or pouches", in allusion to the 5-celled ovary. Various authors from Gussone himself (1842) onwards have doubted the value of the distinction; nevertheless this was the generic name used almost universally until quite recently, and under which

the plant appeared at AGS shows, in their Bulletins and in the RHS Journals. It is an elegant small evergreen heathery shrub usually seen in the Alpine House, but it spent the winter of 1978 - 1979 in the open at Kew and was unscathed, and other growers here had theirs survive outside, yet it is better for protection in our climate. It grows naturally on limestone, but is happy in cultivation in quite acid soils. There are three named sub-species.

ssp *sicula*

The typical, original, ssp *sicula* was described from maritime cliffs facing Mount Cofani near Drepanum (Trapani) in west Sicily, where it grows in clefts of rock near the chapel "del Crocefisso" along with *E. multiflora.* It was said to be getting rare there at the turn of the century: indeed one of the few people I have traced who has been there since 1904 is Ripley (1937) who reintroduced it. It is also on record from the island of Maretimo, off the coast to the west, where Gussone (1842) said it was rare. Here is a worthy objective for a visit in April or May. This subspecies was reported from Malta on the authority of the Maltese Gavino Guilia, who lived from 1835 to 1888, but the record, Mr. Edwin Lanfranco there tells me, is almost certainly erroneous. Finally, there are several places for it in Cyrenaica, east of Benghazi. Here it has been known since certainly 1881 and is locally common in woods and on hills to at least 1,500 ft, *(see Addendum).* Stoker (1952) says the species was introduced in 1849; authority unstated. But Regel (1843) records it as then in German and English gardens, but still rare. It was rare also in 1888 (Anon). D. Don must be in error in mentioning that it was in cultivation in 1819).

ssp *libanotica.*

Var (β) libanotica was published in 1882 by the Barbeys, based on plants collected on 4th June 1880 at 1100m between Billaas and Afqa in the Lebanon by Dr. L. Lortet (b. 1836). It was raised to subspecific rank by Yaltirik in 1967 and kept there by Stevens (1978). Its distinctions from ssp *sicula* are discussed later. (This is the subspecies in recent RHS seed lists, under Dr. Peter

Davis's number 14049, which some people have found to defy germination. But AGS members have succeeded and seed was said to germinate readily. (Anon (1952/b). It occurs also in Cyprus, where it was collected in 1857, and is locally plentiful in sometimes shady places in the Kyrenia mountains to at least 3,200 ft.; and occurs at 60 - 100mm in the area SE of Antalya in Lycia in SE Turkey. In the Lebanon at least it grows with *E. manipuliflora.*

E. bocquetii.

As lately as 15th July 1968 a dwarf plant was found by S. Parlakdag, also SE of Antalya, but this time at 1750m at Cighkara Dokuzgol Mevkii, on calcareous rock in a clearing of the forest of Cedars of Lebanon. This was very promptly described as a species, *E. bocquetii* by Pesmen (1968), although it is possible that further knowledge may suggest it be treated as another subspecies of *E. sicula.* It differs by being smaller in all its parts, the leaves 2 - 3 (-4) mm long, glabrous beneath and usually in 3's (not 4's); the flower parts are also in 3's. Stevens (1978) adds that the stamens have no appendages, whereas those of ssp *libanotica* at least have "small spurs". But in none of the flowers I have examined with a x 16 lens have I been able to detect any, nor does the enlargement in the Botanical Magazine (Hooker, 1888) (the specimen from which Miss Mathilda Smith drew it is at Kew;) or any other drawing of the plant e.g., Fiori and Paoletti (1895), show them. Furthermore, Gussone (1842) gives "antherae basi nudae" and Klotzsch (1840-1) "Staubbeutel unbewaffnet". Dr. Stevens however (in litt, 28 viii 1979) writes that "these can be very small. I may have been mistaken in my observations, but I hope not. Sometimes you need a really good dissecting microscope to see them".

E. bocquetii also flowers later - July to September, because of altitude? One wonders too if it may not be hardier. *E. sicula* from Sicily and *E. bocquetii* are

illustrated by Pešmen (1968). The latter was named after Dr. Gilbert Bocquet, now Director of the Conservatoire et Jardin Botanique at Geneva.

Distinctions of the subspecies

The characters and distribution given to the two subspecies have varied, and their value needs to be assessed. Pešmen (1968) considered the differential characters illusory and that the plants in Cyprus and Sicily are really hardly different. Webb and Rix in "Flora Europaea" (1972) give no subspecific name, although of course ssp *libanotica* does not grow in Europe. With other authors, characters used have been

1827. Gussone said his Sicilian plants had pubescent leaves and pubescent pale pink corollas.

1840.-1. Klotzsch stated corolla white, rarely reddened at the base.

1875. Boissier. Specimena Cypria a Siculis floribus brevissime pedicellatis differunt sed juniores sunt corollâ nondum sat evolutâ.

1882. Barbey. *libanotica* "a typo differt ramis longioribus, floribis glabris, nitidis, non tantum crebris, longius petiolatis, dimidiae crassitudinis, non tantum obtusis, floribus in omnibus partibus gracillioribus".

1888. Mathilda Smith, in Hooker (1888), shows the Sicilian flowers almost white: Hooker's text says pure white.

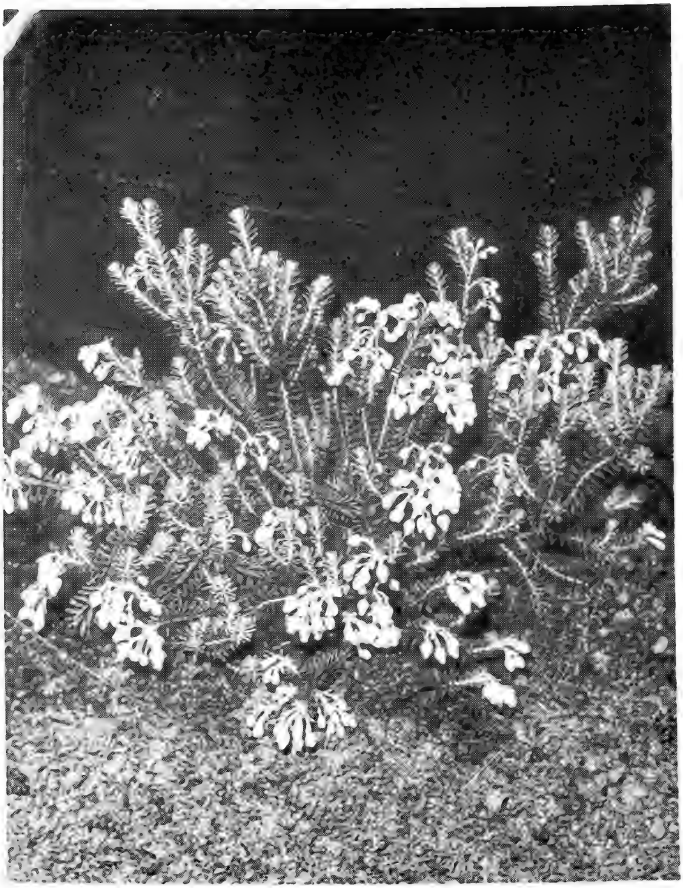
Anon. Plant at Kew had fine hoary leaves and pale pink flowers, yet Miss Smith's specimens at Kew are at best only minutely hoary.

1915. Trotter. Cyrenaican flowers "bianchi o carnicini".

1937. Ripley described *"Pentapera sicula* (var *libanotica?)"* hanging down the shadier parts of the limestone cliffs of Kesme Bogaz in Turkey in 3-foot bushes of yew-green. He found it in flower in January and adds that the pale pink cups were as delicately tinted as a sea-shell, each emerging from the narrow divisions of a pink calyx.

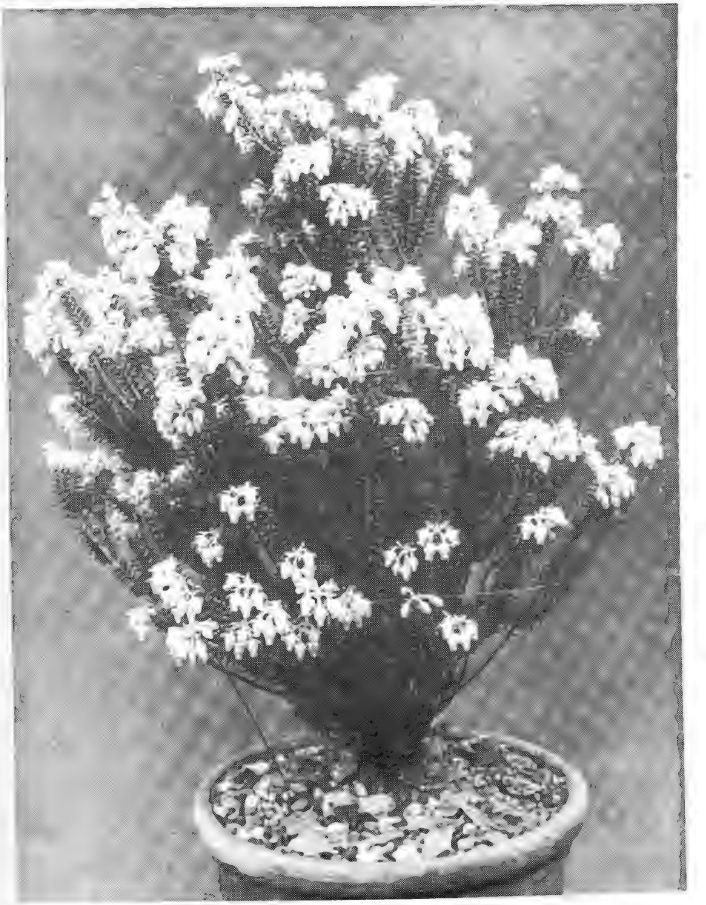
H. E. Beale and Cecilia M. Beale

Plate 1



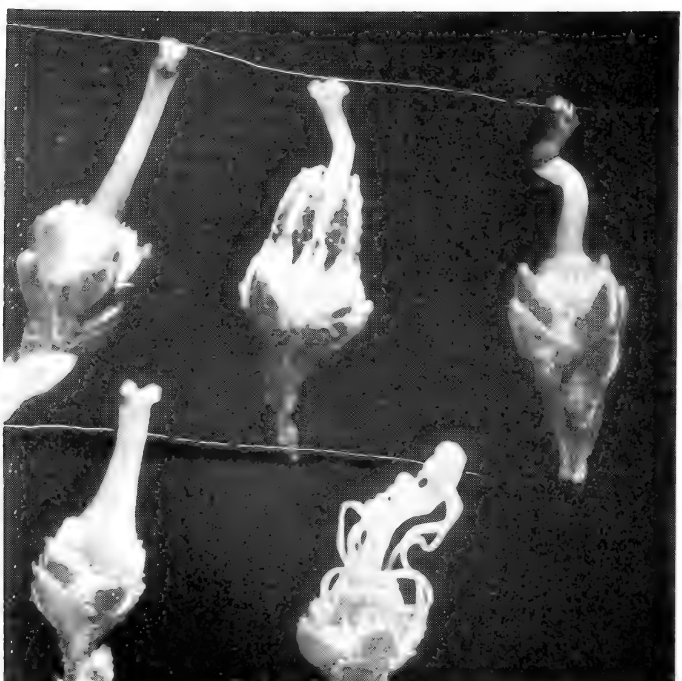
Erica sicula ssp *sicula*
(Published by kind permission of the Alpine Garden Society)

Plate II



Erica sicula ssp *libanotica*
(Published by kind permission of the Alpine Garden Society)

Plate III



C.v. Marleen' *(diplocalyx)*

C.v. 'Visser's Fancy' *(clistanthes)*

C.v. 'Ginkel's Glorie' *(diplocalyx)*

C.v. 'Underwoodii' *(diplocalyx)*

C.v. 'David Eason' *(diplocalyx)*

(Photo by Herr Kramer)

Plate IV

1949. Davis. Bells are pink in the Oriental variety - at least in Cyprus, but in the Sicilian plant (which flowers more readily in cultivation) they are white.
1951. An AM was given on 12th June to a plant shown by W. E. Th. Ingwersen and called *Pentapera sicula*. The plant was however ssp *libanotica* (Anon, 1955). It was described as 18 inches across and only 5 inches high, semi-prostrate, the long branches erect and pubescent, velvety in texture, the flowers soft pink, near Amaranth Rose (HCC 530/1: H16). (Anon 1951 a and b - the latter has a good photograph on p 377. This is reproduced elsewhere in this Year Book by kind permission of the Alpine Garden Society).
1952. Another AM was given, on 20th May, to a plant shown by Mrs. D. E. Saunders as *P. sicula libanotica (sic)*. But here again, there had been confusion and it was in fact typical *P. sicula* ssp *sicula* (Anon, 1955). This was described as some 15 inches high, paler and more upright than the plant given the previous AM, the corollas, pedicels and bracts all of a pale creamy yellow. (Anon. 1952a). Another account says that this was much less straggly than the last, 18 inches high, with stiff, unpolished foliage, sage green when young, maturing to a very dark green, tipped with cream; flowers white with a tinge of pink, fading to parchment yellow, flowering from March to the end of May. Var *libanotica* is credited to Cyprus, Libya and the Lebanon. (Anon. 1952b - there is a photograph on p 345 and once again we are indebted to the Alpine Garden Society for permission to publish it).
1952. Stoker. Var *libanotica* is almost smooth and has longer, more slender branches; *sicula* being more or less downy all over. *Libanotica* is credited only to Mount Lebanon, while the range of the species is given as also Sicily and Cyprus.
1958. Roy Elliott writes " "They" will tell you that there

are two forms, of which the type plant is illustrated in Vol XX p 345 (Plate III) and the variety *libanotica* in Vol XIX p 377 (Plate II). Both are particularly lovely and quite distinct in that the variety *libanotica* is low, straggly with pink flowers and green leaves, whereas the type plant is upright growing, stiff,with white flowers and ivory tips to the leaves." He had a plant of this species in his frame quite distinct from either. It is stiff and upright in habit and yet has the leaves and colouring of the variety. The flowers are drab white and the plant in general quite inferior to either type or variety". Are there three forms of the single species?, he asks.

1958. Joe Elliott. "Both are most beautiful heath-like plants and are so distinct in habit, that it seems strange to the non-botanically minded that the one is only a variety of the other. In the var *libanotica* the young growth is pale green and remains upright for a year or two, until each stem has grown about 6 inches long, when it becomes procumbent. These long straggly stems produce their very pale pink bell-shaped flowers in drooping clusters from the tips in May. The whole appearance is quite different from the type, which has stiff, upright stems with dark blue-green leaves with whitish tips and bears clusters of flowers similar in form but white in colour".

1965. Keith. Libyan plants are up to 2 metres high with erect branches, pubescent when young with velvety leaves and pink corollas.

1967. Yaltirik. Subspecies *sicula* - leaves always velvety pubescent, subterete, usually less than 8mm, young shoots stout, whitish, pubescent. Subspecies *libanotica* - leaves of the previous year's shoots glabrous, somewhat flattened, larger than 8mm, young shoots slender, usually glabrous.

1978. Stevens. *Libanotica* differs from *sicula* in having longer, narrower leaves and brighter pink flowers (flowers almost white in subsp. *sicula*). ssp *sicula* he gives for Sicily, Malta and Cyrenaica; ssp *libanotica* for Cyprus, the Lebanon and, of course, Turkey.

There are scanty annotations on specimens in herbaria. At Kew and Paris, Cypriot plants are said to be 2ft x 3ft across with green leaves and pink or bright pink flowers; those in Appollonia pale pink, often very delicate, almost greyish pink, on shrubs up to 3 or 4ft high. But the evidence of AGS members is valuable, and I have been much helped by Mr. Roy Elliott and Mrs. K. Dryden, who grow plants considered to represent both subspecies, their ultimate origins uncertain; by Mr. B. Halliwell at Kew, and by Mr. B. Starling of the AGS. He has raised and distributed plants from seed. One seedling from the typical plant was identical, but the others are now dispersed, so it is not known how closely they resembled the mother plant.

DISCUSSION

I have much respect for the plantsmanship of the AGS members; and that botanists sometimes give the same name to what horticulturalists consider distinct plants, is now new. Quite recently similar cases have arisen in *Hypericum olympicum* and with *Polygonum compactum,* where gardeners are growing attractive forms from the natural range of variation. These will generally have been chosen just because they were markedly different from the general pattern: they will not be typical of wild populations, where intermediates can link the forms in cultivation. Thus Roy Elliott's third form of a single species was doubtless just that.

It seems that no clear dividing line can be drawn between the eastern and the western populations of *E. sicula*: even the distribution of the two subspecies is quoted differently by different authors, while characters attributed to one can readily be found in the other. Thus, leaves over 8mm are by no means restricted to eastern plants, and the amount of pubescence on them varies considerably, and not only with age. The most that can be said for leaf differences is that eastern plants have very slightly longer and slenderer leaves which are sooner glabrescent, and apparently lack the whitish

horny tips which are by no means universal in the western plants.

That the corolla is also sooner glabrescent and of a darker pink in the east than in the west, seems true, although even here the distinction in the wild is not clear-cut. The straggling character of eastern plants does not show, is difficult to show, on herbarium specimens. I have examined the folders at Kew, the British Museum and in Paris and, even knowing where they were collected, I could not place most sheets in either subspecies. The evidence however that I have been able to use has lacked two important sources. One is that I have seen no specimens from Turkey or the Lebanon; the other that I have seen no fresh plants since I was asked to write this paper, which has to be in print before these omissions can be remedied. But two distinct plants in cultivation are not enough to prove the validity of two subspecific names in the wild: rather should these two bear cultivar names, which cannot now be in Latin form: indeed any name such as *libanotica* refers to a group of wild plants, to which of course, the selected cultivated plants may also belong.

An important factor in considering the status of the various colonies is their wide separation. From W. Sicily to Cyrenaica is 600 miles, from Cyrenaica to Anatolia is 700, from there to Cyprus 250, and the Lebanon is 200 miles to the ESE. The effect of this isolation is enhanced by the gaps being across open sea. Such disjunct colonies, spread over no fewer than 1600 miles from east to west, are likely to show adaptations to differing climates and heights above sea level, quite apart from such modification as may result from growing in shade or on mountain rocks or sea cliffs. These adaptations will have been progressing for unknown ages (is the species in regression? its lack of variation suggests this too), unaffected by any gene exchange with congeners elsewhere. The chances of differentiation between colonies is all the greater, because most of them are very small, all are very local, so that the gene pool is all the more restricted.

It would seem likely that critical assessment of each colony might show detectable differences from the others, incipient subspeciation indeed, but that these are, at present, too unclear, clinal at most, to merit even varietal recognition. I was gratified to find that this opinion had been arrived at separately by Mr. R. D. Meikle at Kew, the author of the important new "Flora of Cyprus"; and that he will be treating the plant there as plain *Erica sicula.* I am grateful to him also for his help, and to the Keepers of the herbaria I have been able to consult.

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ADDENDUM

Since writing the above, I have been able to include in the references the recent paper by the Italians Brullo and Furnari. In it they describe the Libyan plants as ssp *cyrenaica,* thus bearing out my feeling that close critical examination of the populations in each country might show evidence of incipient subspecific characters.

They contrast the Libyan plants only with those from Sicily, which as I have since heard they know - they say the plant has disappeared from Maretimo. The Libyan plants have hitherto usually been grouped with the Sicilian, but since they are as far from them as from other colonies to the east, it is likely to be here that some separation may be most readily detectable.

Brullo and Furnari give distinguishing measurements etc, which need to be tested. They state however that the species grows only in one locality in Cyprus (in which island it is in fact locally plentiful) and have seen no material from there, nor from the Lebanon, nor do they mention the Turkish plants (and clearly have not seen the Flora of Turkey). So, a suitably wide treatment is lacking. The Libyan plant is illustrated in Fig. 7, showing no appendages to the anthers. The diagnosis of ssp *cyrenaica* runs

"A typo differt sepalis 4.5 - 5 mm longis et 1.5 - 1.8 mm latis, corolla 6 mm longa, inflata inferne et manifeste strangulata superne dentibus maxime 1 mm longis; staminibus longis 5 mm, antheris 1.5 - 1.8 longis, stylo 4.5 mm longo, piloso solum superno, rare inferno, costis paulo evidentis nunquan elatis; stigmate paulo expanso, brunneo."

A Quest for the White Dorset Heath

Maj. E. W. M. Magor, St. Tudy, Cornwall

F. Hamilton Davey, in his Flora of Cornwall (1909), says of *Erica ciliaris* "I have frequently found this species with white flowers". Though I knew of the cultivar 'Stoborough', I had never seen this species with white flowers in the wild in Cornwall, and so I set out in 1977 to find it. I made a good search of the only two places that I knew where the species is plentiful, Ventongimps and Carrine Common, but could not see the white form, and so decided to try Dorset.

During the winter, someone mentioned Silverwell to me, an *E. ciliaris* site, of which I did not know, and I went there in July 1978, and found plenty of the species and also the hybrid *E.* x *watsonii,* but not the white form. At the beginning of August, I went to Dorset and searched Stoborough Heath but without success; in fact I saw very little *E. ciliaris* at all, though I did find some white *E. cinerea* and saw more *Drosera longifolia* than I had even seen in my life. Calling on Mr. Marchant at his nursery at Stapehill on my way back, I asked him where I should look for the white form of *E. ciliaris,* as he stocks

'Stoborough' but he told me that I was too early for it. Back in Cornwall, I asked Mr. Trehane, who had told me originally about 'Stoborough', and he suggested my trying the Arne road and Studland Heath.

Returning to Dorset at the end of the month, I found plenty of *E. ciliaris* near the ferry at Studland, but none of it white, and crossing Hartland Moor to get to the Arne road, I observed the Nature Conservancy Council notices and refrained from trespassing on what looked likely territory. My search was rewarded however by one sizeable, well-established clump, just north of the Arne road.

During the winter, I met David McClintock through the International Dendrological Society, and he told me that white *E. ciliaris* had not been recorded in the wild for several years. In the early spring of 1979 I brought some rooted cutting of my white heather to an RHS show, and he and General Turpin confirmed that it actually was *E. ciliaris* and not the hybrid - I had been uncertain, as the various floras are not unanimous as to the number of leaves there are normally in a whorl in this species.

Soon after this, I had established contact with the South West Regional Office of the Nature Conservancy Council at Roughmoor, (Taunton), over a visit to St. Agnes to see *Ophioglossum lusitanicum,* and on the strength of this I applied for a permit to visit Hartland Moor in Dorset on a particular day in August, and was gratified to be given one for the whole month, endorsed with a warning that away from paths and tracks I was advised to beware of deep waterholes and boggy areas - a well-justified warning, as I was to discover.

During the summer, on an expedition in Cornwall with Len Margetts, the Recorder for Vice-County 1, I asked him if he had ever found white forms of *E. ciliaris* or the hybrid, and he said that he had, some years ago, at both sites I knew. I therefore suggested a foray together at the end of September, when the Turpins had told me that they would be in Cornwall.

Early in August, I visited Wareham again, checked up that I could still find my clump of white *E. ciliaris,* though it was hardly out, and managed to go into a boghole over the top of my gumboots. Next morning I called on Mr. M. V. Tuck, the Nature Conservancy Council warden, at Slepe Farm, and he was kind enough to give me maps of the reserves at Hartland Moor and Morden Bog, and to tell me where to look for white *E. ciliaris* on the former, and *E.* x *watsonii* on the latter. The bog on Hartland Moor is a quarter circle, and I worked up one side, crossed by the electricity pylons, where I found one plant of the white form in a very wet place, and worked back on the other side, crossing at the end without finding another. Going on to Morden Bog, north of Wareham, I took a little time to find the right place, but eventually did so, and noted the beak sedge *Rhynchospora fusca,* which I had been told that I should see, and eventually came to the right place, with *E. ciliaris* on one side of a dyke, and this and *E.* x *watsonii* on the other side. I had been warned that the last part of the track might be difficult to make out, and indeed it was. I did not find any white heathers here, and coming back I missed the path, and at one time was up to my waist between sedge tussocks with bog myrtle above my head - a new experience.

The afternoon before the Heather Society Conference in Weymouth, on arrival from Cornwall, I re-visited my two clumps of white *E. ciliaris* which were now fully out, and made a more thorough search of the Hartland Moor marsh, without finding any more, though the bog was looking very beautiful with quantities of Marsh Gentian *(Gentiana pneumonanthe)* in flower, and I managed to get into another boghole. Two days later, a coachload of us set out from the conference to visit (some of us thought) Arne Heath, guided by Dr. Chapman and Dr. Morris of the Institute of Terrestrial Ecology's Furzebrook Research Station, but we went to Hartland Moor, where we were taken to the site to which

Mr. Tuck had directed me, and there we saw perhaps 20 plants of the white form in an area of about 20 sq.yds. On my two previous visits, I had been all round this spot, but not actually to it, and so missed the white heather.

Finally, on the 27th September, Len Margetts and I met the Turpins and Mrs. Barbara Garratt, the botanical Recorder for V-C. 2, (E. Cornwall) at the Chyverton Arms at Three Burrows, and went first to Silverwell, where we saw plenty of *E. ciliaris,* and the hybrid, but none of it white. Returning to our cars, we found that two of us had had a tyre let down, but fortunately the Turpins had a pump, so we were not seriously inconvenienced. From there, we went to Ventongimps, now a Cornwall Naturalists' Trust reserve, but very disappointing botanically compared with 50 years ago, when all three Sundews were there in quantity. We did however see plenty of *E. ciliaris* and the hybrid, but none of it white. From there Mrs. Garratt took us to a small moor near Chyverton called Wentworth, where there was plenty of *E. ciliaris* and at least one plant of the hybrid, but again none of it white. After that, to the bog S.E. of Carland Cross, the only site for *E. ciliaris* in V-C. 2, where it is fairly plentiful, though rather local, and the hybrid was seen, but no white.

Then, about 6 o'clock, when it was beginning to get cold, we finished up at Carrine Common, within sight of the County Hall in Truro, the classic original site for *E.* x *watsonii,* "between Truro and Sparnick tunnel". There, in a dry part of the common, where there is less *E. ciliaris* than in other parts, was where Len Margetts had seen the white form some years ago. Here, some isolated plants of the white form of *E. tetralix* were seen, which raised our hopes, but not *E. ciliaris,* and just as I was about to suggest that it was time to turn for home, there came a shout from Cherry Turpin, who had wandered off to an unlikely looking bit of the common. This summoned us all, and sure enough she had a plant of the real white *E. ciliaris,* and was standing on another, and in an area of

about 3 square yards we found six plants, two pure white, three with a pink tinge, and one the palest imaginable shade of pink (perhaps Red Group 56D* in the RHS Colour Chart); if this is grown on as a cultivar, it might be appropriate to call it 'Cherry' after the finder.
(* Paler than H16 on the H.S. Colour Chart. Ed.)

One, Two or Three Cultivars?

A. W. Jones, West Camel, Somerset

There is some question as to whether 'Globosa', 'Norden' and 'Rotundiflora' were the names of three distinct cultivars of *Erica ciliaris,* or synonyms of a single clone.

Writing in the Heather Society Year Book for 1971, H. van de Laar states " 'Globosa' is also known in Holland as 'Norden', but this 'Globosa' is completely identical with 'Rotundiflora' ". In a recent letter Mr. van de Laar tells me that 'Globosa' has been used as the preferred name in Holland for about ten years. Nor is the confusion restricted to Holland. In the article mentioned above it is said that no differences were found b etween 'Globosa' and 'Rotundiflora' growing in the nursery of G. Underwood and Son. Other people have also remarked on the similarity of plants bearing these three (putative) culitvar names. I propose to examine such evidence that I have been able to obtain in an attempt to determine if there were one, two or three cultivars.

'Globosa' first appeared, as new, in Maxwell & Beale's special heather catalogue for 1925, though the description gives no details of value in unambiguously identifying the plant. In "The Low Road" (1927) D. F. Maxwell says *"E.c.* 'Globosa' has flowers more broadly ovate than those produced by the type". In 1928 A. T. Johnson described the plant in "The Hardy Heaths" as "a comparative new-comer with corollas of much the same colour but fuller and rounder than those of the type".

In 1949 Dr. B. K. Boom wrote in the 3rd edition of "Nederlandse Dendrologie" " 'Globosa' bloemen groter, in korte, + kogelronde trossen" (flowers larger, in short, more or less globular trusses). Chapple describes the plant in "The Heather Garden" (1952) as 18 inches high with large pink bells from July to October. A. T. Johnson's description in "Hardy Heaths" (1956) had been enlarged to "A very attractive heath with the grey-green foliage of its clan and bold, erect spikes of rose-pink bells. These are longer and fuller than those of the type, which it supersedes, and they are produced from July to late autumn". The comment on the length of the inflorescences is in direct disagreement with that of Boom.

Boom, Chapple and Johnson (1956) described the plant between 25 and 30 years after its introduction. Later descriptions by Letts (1966), Maxwell and Patrick (1966) and Underhill (1971) agree with Chapple and Johnson on height, colour and the size and shape of the flowers. However both Letts and Underhill remark on its similarity to 'Rotundiflora'.

The Proudleys in "Heathers in Colour" (1974) give the height of five year old plants as 30cm (12 inches) and say that the plant is known as 'Norden' in Holland and is virtually the same as the cultivar 'Rotundiflora'. This book contains a coloured photograph of 'Globosa'.

In "Pocket Guide to Heather Gardening" (1978) Geoffrey Yates says the plant grows 35cm (14 inches) high with large lilac-pink flowers. This was based on the results of the Heather Society's Harlow Car Trials. He goes on to say that it is a particularly well-flowered selection of the natural form.

From the earliest descriptions the large rounded flowers are given as an important characteristic of the cultivar. However none of the examples of 'Globosa' in the Heather Society's herbarium show this characteristic. This suggests that either those who wrote the earliest description had been mistaken in their

observations, or that the true clone is less frequently encountered than its name.

Erica ciliaris 'Globosa' was listed by Maxwell & Beale from 1925 to 1939, and by Marchant's of Wimborne from 1929 to 1954. It was at Kew in 1934. In 1937 Felix & Dijkhuis, the Dutch firm, listed *E. ciliaris hybrida globosa* but the use of the word *"hybrida"* in this cv name is obviously a mistake. Reuthe of Keston listed it in 1938. In 1939 it appeared in the wholesale list issued by Van Der Vis and Co. of Boskoop. This list was printed in English and quoted prices in sterling. It described the plant as having "large rounded flowers". Post-war listing includes Jas. Smith of Darley Dale in 1947, where it was described as having pink flowers from July to September; Sunnymount Nurseries of Hyde (Cheshire) had it in 1967; Haalboom of Driebergen in 1969 described it as having large lilac flowers and greyish green foliage; Sylvan Nursery (USA) listed it in 1968 and Hoogendoorn in 1970 (synonym 'Norden').

The name 'Globosa Rosea' appeared in "The Gardeners Chronicle" for 6th December 1967 describing a plant having pink flowers of RHS colour 63 .This plant was identical with 'Globosa'. The name was thus doubly illegitimate in that it was given to a plant already having a valid name and was in Latin form after 1st January 1959.

'Norden'

'Norden' was also introduced by Maxwell & Beale, but this time in 1929. Like 'Globosa' it was found in SE Dorset, and its name gives its exact origin as Norden Heath between Stoborough and Corfe Castle. The heather catalogue for 1929 describes it as having pale pink flowers and being suitable for rockeries. It remained in Maxwell & Beale's catalogue until 1939, but I have no record of it being offered by any other British nursery. It is not mentioned in any of the English heather literature except the van de Laar article mentioned above and in

"Heathers in Colour" where it is given as a synonym for 'Globosa'.

W. Haalboom & Zonen of Driebergen listed 'Norden' in 1962 when they described it as having "zeer opvallend zachtrose bloemen in lange trosjes" (very conspicuous soft pink flowers in long trusses). Mr van de Laar tells me that this is the earliest reference he can find to the plant in Holland. It is probable that the municipal heather garden at Driebergen Rijsenburg also had the plant at that time. Terra Nova of Aalsmeer listed the plant in an undated post-war catalogue and said the flowers were light rose. The Arnold Arboretum of Massachussets had plants of Dutch origin in 1966.

'Rotundiflora'

The documentation of 'Rotundiflora' is rather more confused. The precise authorship of statements made in "The English Heather Garden" is not always clear. However in a section which was almost certainly written by Maxwell it is said that he collected it from the Great Heath near Wareham and that it was introduced by Maxwell & Beale. Underhill also says that it was introduced by that firm, as does van de Laar in "The Heather Garden" (1978). The latter author gives the date of introduction as 1933. However there is no mentiond of 'Rotundiflora' in any of Maxwell & Beale's pre-war catalogues. Maxwell ceased to be a director of the firm in 1931 or early in 1932.

The earliest appearance of the name that I know of is in Smith's catalogue for 1933. They say the plant had pink flowers and flowered from July to October. It remained in their catalogue until 1939 and re-appeared in 1947. Chapple says in "The Heather Garden" that 'Rotundifolia' (sic) blooms from July to October and grows to a height of one foot. He goes on - "A pink form I have grown for many years. Looks well in a rockery". "The English Heather Garden" also gives the height as one foot. Maxwell writes "Often misnamed 'Rotundifolia'. The flowers are slightly paler pink than

the type, and rounder. Though I say it with shame, this variety is scarcely distinct enough to justify its existence". As recently as 1977 Goarant said that 'Globosa' was "quelquefois nommée 'Rotundifolia' ".

From the evidence cited above, much of which was published at least twenty five years after the plants were introduced, it seems that there were *at least* two distinct cultivars. One of these, *Erica ciliaris* 'Globosa', was eighteen inches high with large rounded rose-pink (or lilac-pink) bells. The other was a somewhat lower plant, growing to one foot in height and had paler pink bells. These are now probably inextricably mixed in the trade, and the position may be further complicated by the tendency of *E. ciliaris* cultivars to revert.

The two groups of plants tested at Harlow Car in the Heather Society's trials differed only in the length of the blooming period. Both had the lilac-pink blooms of 'Globosa' but the flowers were the normal shape and size. Furthermore they were both twelve to fourteen inches high with mid green foliage suggesting that they favoured 'Rotundifiora'. The blooming period given for 'Globosa' in the trials results, early August to late November, is much longer than that given in any of the earlier descriptions of that plant. No blooming period has been given for ' orden'. The appearance of this typical 'Globosa' in the trials results is the only evidence that two twelve inch plants existed.

With 'Globosa' and 'Norden' both introduced by that knowledgeable and careful collector D. F. Maxwell, and with the two plants reputedly differing in both height and flower colour it is clearly inadmissible to use the latter name as a synonym of the former. When we come to 'Norden' and 'Rotundiflora' there is circumstantial evidence that these may be the same plant. Both are reputed to have the same height and flower colour. 'Norden' disappeared from Maxwell & Beale's catalogue during the war and was not mentioned in Maxwell's post-war writing, while 'Rotundiflora' appears for the first time as a Maxwell & Beale

introduction. Further support for the view that these two names refer to the same plant is provided by the fact that the note in Maxwell & Beale's catalogue on 'Norden' says that it is suitable for rockeries, while Chapple's comment on 'Rotundifolia' is that it looks well in a rockery. It is not clear why someone, possibly Smith, should have given the name 'Rotundiflora' to Maxwell & Beale's 'Norden' while that plant was still being offered under that name by the Dorset firm.

To sum up, it seems likely that there were two cultivars, 'Globosa' and 'Norden'. The latter cultivar became known as 'Rotundiflora' in England prior to the second world war. The rule of priority suggests that the name 'Norden' should prevail as the original name. However as it is now unused, it is permissible under the International Code of Nomenclature for Cultivated Plants (1969) to ignore its priority and use 'Rotundiflora' as the name, with 'Norden' as synonym.

Finally I should like to thank both David McClintock and Harry van de Laar for the help they have given me in assembling the evidence I have used in this note.

NEW ACQUISITIONS

J. Platt, Ulnes Walton, Nr. Leyland, Lancashire

Once again Jack Platt has produced a list of cultivars which he has added to his collection during 1979. Where appropriate, references are given to earlier publications of the names - for example P. G. - Pocket Guide to Heather Gardening, 4th Edition,

Calluna Vulgaris

David Platt' Aug. - Oct.

This plant occurred as a seedling in the garden here in 1975. It is the first semi-double *Calluna.* It has both stamens and stigma. The white flowers are freely born on a broad bush. In three years plants have reached 30cm in height, with a spread of 45cm. It is

named after my son. The name was registered with the Heather Registration Authority on 29th January 1980 (No. 13).
(P. G., p 31, H. S. Year Book, 1979, p 57)

'Fire King' July - Sept.
45cm. Pink flowers. The foliage of this plant is yellow during the summer and turns orange-flame in the autumn. The habit is erect. Introduced in 1978 by Hardwick, who had the plant from John Letts.

'Harry Gibbon' Sept. - Nov.
60cm. Shell-pink flowers, paler than *C. v.* 'H. E. Beale'. The plant is vigorous and has an erect habit. It was found on the North Yorkshire Moors by Mr. Gibbon, a gardener on the staff of R. V. Roger of Pickering.

'Isobel Frye' Aug. - Sept.
10cm. Found as a seedling in a bed of *C. v.* 'Sister Anne' in the garden of Mr. and Mrs. M. G. Frye in Thundersley, Essex, in 1975. It has pink flowers (RHS 65a, HS 8) which are freely borne. The foliage is yellow-green overlaid with grey orange in the summer. In winter the foliage is overlaid with red-brown. The plant is a rapid grower, forming dense mats 30cm across in two years. It is excellent for ground cover. The name was registered with the Heather Registration Authority on 28th October 1977 (No. 7). (H. S. Year Book 1979, p 56).

'Red Rug' Aug. - Oct.
10cm. Pink flowers freely borne on a prostrate plant which has red tips to its new growth in the spring. Distinct. The plant was found by R. A. Ide on Trink Hill in Cornwall in 1972.

'Richard Cooper' Aug. - Oct.
45cm. Mauve flowers. A plant with erect habit and orange foliage which turns red in winter. The plant was at Pennyacres in 1977, but who can tell us the identity of Richard Cooper'?
(P. G., p 32, H. S. Year Book, 1979, p 55)

'Skipper' Aug. - Oct.
25cm. Pink flowers. The plant has a low, compact habit, with red tips to the foliage. The first record of this plant that I have been able to find is "From a nursery on the Wirral in 1973".

Daboecia cantabrica

'Early Bride' April - Nov.
25cm. White. The earlier flowering cultivar of *D. cantabrica.* This free flowering plant was raised by Don Richards.
(P. G., p 33)

Erica australis

'Amy Doncaster' April - June
Rose-pink flowers, reputed to be slightly darker than *E. a.* 'Riverslea'. Found as a seedling by Mrs. Doncaster in her garden at Chandlers Ford. It was introduced by McPenny's of Bransgore in 1978 as *E. carnea* 'Amy Doncaster's Form', an illegitimate

name. As late as the spring of 1979 a plant was in their display garden labelled *E. arborea.* The correct species of this plant was pointed out by members of the SW Local Group on a visit to the nursery.

Erica carnea

'Red Rover' Feb. - March

A vigorous plant with deep purple flowers over dark green foliage. The flowers are borne for a comparatively short time. It was found as a chance seedling by J. Anderson in his Broadhurst Nursery, Grampound, Truro, in 1974. It was however introduced by Felsberg Nurseries of Liskeard.

'Tybesta Gold' Jan. - April

Large pink flowers on a dense, low, vigorous plant. Does not bloom well as a first year plant but thereafter flowers freely. The foliage is an attractive lemon-gold which is most brilliant on the new growth. It came from a batch of seed collected from *E.c.* 'Springwood White' by J. Anderson of Broadhurst Nursery in 1975.

Erica cinerea

'Godrevy'

15cm. White flowers. Compact habit. Found by David Small at Godrevy Towans, Cornwall, in 1972 and introduced by Denbeigh Heathers in 1979. The name was registered with the Heather Registration Authority on 16th August 1979 (No. 11).

Erica tetralix

'Ruth's Gold' Aug. - Sept.

Pink flowers. Gold foliage in spring and summer which becomes lime-green with gold tips later. The plant was found by Jack and Ruth Platt on Goonhilly Downs, Cornwall. The name was registered with the Heather Registration Authority on 29th January 1980 (No. 14).

Erica vagans

'Early Pink' Aug. - Sept.

Pink flowers with dark maroon anthers. One of the first cultivars of *E. vagans* to bloom. It is said to be more lime tolerant than most examples of this species. Introduced by Oldfield Nurseries of Norton St.Philip, Somerset.

'J. C. Fletcher' Aug. - Sept.

35cm. Rose-pink flowers very freely borne.

Jack Platt must have devoted a considerable amount of time, and travelled many miles to collect the cultivars in his list. However, despite his sterling efforts, Jack cannot hope to find all the new heathers which come on to the market in any year. If you should come across a cultivar which you think is new, please let us have the fullest possible details. In this way you will be helping the Registrar to keep up with as many as possible of the new cultivars. Armed with this information he may also be able to prevent mistakes similar to those which have

occurred in the past when one plant has found its way on to the market under several names, or plants already having good and valid names have been given others. A recent example of such an error is provided by an *E.* x *darleyensis* being sold as 'G. Stevens'. This was almost certainly a mistake for 'Cherry Stevens' - a name which has already been discarded in favour of 'Furzey'.

Ed.)

Further Notes on *E.* x *darleyensis* induced Hybrids

Mrs. Anne Parris, Usk, Gwent.

My earlier notes on the induced hybrids between *Erica erigena* and *E. carnea* were published in the Year Books for 1976, 1977 and 1978.

To recapitulate, this rather casual experiment in 1972 involved tying a spray of *E. carnea* 'Springwood Pink', to the growing branches of the white *E. erigena* 'W. T. Rackliff', and also to the purple flowered *E. erigena* 'Brightness', and enclosing them in plastic bags. Ultimately three plants were obtained from the 'W.T. Rackliff' female parent and four plants from the 'Brightness' parent. (In this connection I should add that seed collected in the open some years ago from 'Brightness' produced true *E. erigena* seedlings).

The 'W. T. Rackliff' female parent seedlings were distinguished as 'A', 'B' and C. The seedlings from the 'Brightness' female parent were numbered (1), (2), (3), and (4).

The 'W. T. Rackliff' hybrids all have varying degrees of coloured shoots reminiscent of 'Darley Dale', 'George Rendall' or 'Arthur Johnson'. 'A' which was the first of

all the induced hybrids to bloom largely resembles 'Darley Dale'. In their greater length, the inflorescences of 'B' and 'C' closely resemble those of 'Arthur Johnson', whilst being paler in colour, and 'B' even more pale and later than 'C'.

Of the induced 'Brightness' hybrids, most have crimson shoots of varying intensity, reminiscent of those of 'J. W. Porter'. (4) was the first of these to flower, and abundantly, but later than 'A'. It was followed sparsely in 1978 by (2) and (3). This autumn, 1979, (1) has produced flower buds at long last. They are much later than the others, and with a seemingly clustered appearance at the time of writing which may or may not be significant. These induced hybrids suggest to me that 'J. W. Porter' and perhaps 'Furzey' may have originated from purple flowered rather than a white flowered *E. E. erigena* parent.

Unless (1) produces anything more exciting in its flowers in 1980 than the other induced hybrids, I do not think any of them are more garden worthy than those we have already. (1) however, has the brightest young foliage colour of all the hybrids induced from 'Brightness' as the female parent.

An attempt to repeat the 1972 experiments in 1977 using plastic bags as before was unsuccessful. However in 1978 the crosses were repeated using felted nylon pollination bags made by Duraweld and supplied by courtesy of Reading University.

Seed was again obtained "by banging the heads together" using cultivars of *E. carnea* (including 'Myretoun Ruby' and 'Aurea' amongst others). Once again the white *erigena* 'W. T. Rackliff' was used as one female parent. Because the 'Brightness' parent used in the original induced cross had died in the 1976 drought, another purple *erigena* was used. This was an un-named plant from Thompson and Morgan seed grown some years before.

Some 100 plants have been obtained from these rough crosses; a few made in the open without bags, but

mostly using bags. Some seedlings were obtained for comparison from bagged *E. erigena* plants without any *E. carnea* being enclosed.

It is not possible to say for certain at this stage how many hybrids have been obtained, but clearly the habit of growth of the young plants suggests quite a number. The erect habit of some of the plants indicates that this time there may have been some self-pollination of the *E. erigena.* This might be expected from the healthier conditions inside the felted nylon bags which preclude condensation.

Whether 'W. T. Rackliff' is male sterile, as was once suggested, is not proven. Mr. Sellers of Chandlers Ford, Hants, wrote to me in 1978 about 50 seedlings he was growing on from seed of 'W. T. Rackliff' collected in 1977. He described some seedlings as having light green stems with apple green shoots, whilst a smaller number had dark red stems with olive green leaves. The latter seemed to him to be more vigorous. It will be particularly interesting to have his final observations when the plants are mature and have flowered. There may or may not be natural hybrids amongst them. The occurrence of natural hybrids amongst *E. erigena* seed may well depend on the close proximity of *E. carnea.*

In 1977 I also collected seed from *E. erigena* 'Irish Salmon'. (It has been suggested to me that the plant may actually be 'Irish Dusk'. I have no way of comparing, but as the plant was obtained from Brian Proudley before he went to New Zealand I would expect it to be genuine.)

This 'Irish Salmon' was growing amongst a mixed population of ground covering *E. carnea.* So far most of the seedlings have a prostrate habit, and some of these have bright crimson shoots like 'J. W. Porter', and suggest they are hybrid. None have flowered so far, but only one or two have the erect habit of *Erica erigena.* I have sent David McClintock two of these plants.

To my mind this confirms the theory that *E.* x *darleyensis* hybrids occur often under natural conditions. It could be, that *E. erigena* pollen is rather "sticky", and since it is produced later than the more abundant *E. carnea* pollen, and with the apparent relative compatibility of *E. erigena* and *E. carnea,* the cross fertilisation of *E. erigena* by *E. carnea* is rendered easier. This may explain why I have not succeeded in attempts to make the cross the other way using *E. carnea* as the female parent. Perhaps only skilled emasculation rather than "banging heads together" will prove this one way or the other.

Attempts to back-cross *E.* x *darleyensis* 'Darley Dale' and 'Furzey' with *E. carnea* pollen and using felted nylon pollination bags have also failed. I would think that claims of fertile seed from *E.* x *darleyensis* are not proven, the more so as I have 60 yards of 'Darley Dale' hedge planted in 1967, with abundant adjoining *E. carnea,* but have never found either set seed or seedlings under it.

Fertile back crossing of an *E.* x *darleyensis* with either parent (known to occur naturally in *E.* x *watsonii (E. ciliaris* x *E. tetralix),* as described to us by Dr. S. B. Chapman at the Weymouth Conference in 1979) is either very rare or does not occur at all.

A. W. Jones's investigations into pollen shapes under the microscope have considerable bearing on all this. Male sterility can probably be forecast from the typical appearance of collapsed pollen grains, and confirmed by the use of Alexander's stain. However, it must be remembered that very few grains may be fertile (Webb states that 30% of the pollen of *E. mackaiana* and 1% of the pollen of *E.* x *stuartii* are fertile). These may be missed by all but the most thorough examination.

Secondary Reference Collections

Early in 1978, when the future of the Harlow Car trials was in doubt, and before we were so generously offered the facilities to set up complete reference

collections at Wisley and Harlow Car,a proposal came before the Technical Committee which was aimed at maintaining stocks of cultivars which were known to be authentic. The proposal was that members who had reasonably comprehensive collections of cultivars, even within a single species, should be asked to help the Society by allowing them to be considered for recognition as "reference collections" of the appropriate species.

Now that work has started on the Wisley and Harlow Car national reference collections the secondary reference collections would still have the advantages that cultivars which are known to be true to type may be seen growing in a variety of soils and climates, and also that they may be seen, without excessive travelling, by people living at some distance from either of the national reference collections. The Technical Committee has therefore recommended the scheme to Council and Council has given its approval. We would therefore ask those who would be prepared to co-operate in such a scheme to inform the Technical Committee. The following notes give a brief explanation of the operation of the scheme.

The Technical Committee will be responsible for keeping records of the recognised collections and the verified cultivars that each contain.

Applications for recognition may be based on one or more species. In order that collections may be considered for recognition the owner will be asked to complete a questionnaire and supply a list of the cultivars grown in the species covered by the application. This list should contain, where possible, details of the origin of the material.

When a collection which has been offered for recognition appears to be suitable, the Technical Committee will arrange for it to be visited by an inspecting team who will judge whether the cultivars are authentic. The team will submit its findings to the Technical Committee. If the Technical Committee

support the application it will submit its recommendations to Council for approval. Details of the approved collection will be retained by the Technical Committee and a copy sent to the owner of the collection.

When a collection is granted recognition the owner will be asked to:-

1. Allow access to the collection by prior appointment.
2. Take reasonable precautions to prevent verified cultivars from becoming mixed.
3. Ensure that cultivars are clearly and correctly labelled.
4. Inform the Technical Committee if verified material dies out or is discarded for any reason.
5. Obtain new cultivars of the recognised species from the raiser, where convenient.
6. Inform the Technical Committee of cultivars that are added to the collection in order that records may be kept up to date and where necessary arrangements may be made for verification.
7. Make available small quantities of cutting material or rooted cuttings if requested by Council for non-commercial purposes.

The owner of a collection may, of course, withdraw from the scheme at any time, and Council may withdraw recognition from any collection which is not maintained at the standard required.

Recent Writings on Heathers 1979

ANON., North and South. *Amateur Gardening,* 3rd Feb., 1979, Vol XCIV, No. 4900
Mention of Harlow Car and Wisley reference collections and the Pocket Guide.

ANON., Heaths and Heather. *Pacific Horticulture,* 1979, Vol 40, No. 2, p 53
The Pacific Northwest Heather Society.

ANON., *Calluna vulgaris.* Jahresbericht 1977 - 8 of the Gartenbau-Versuchsanstalt, Bad Zwischenahn - Rostrup, Germany, pp 38 - 40
Shows the effect of various growth regulators on 'H. E. Beale'.

ANON., *Calluna* - und *Erica* - Sichtung. *ibid.* pp 92 - 4
A useful list of 108 Callunas and 31 *E. carnea* being trialled by this research organisation.

ANON., *Erica* x *stuartii* 'Stuartii'. *Gardeners Chronicle,* 1979, Vol 186, No. 8, p 26

A long summary of the paper by David McClintock in *Watsonia* in Feb. 1979.

ANON., A proposito di Eriche. *Il Giardino fiorito,* 1979, Vol XLV, No. 10, p 511

Mention also of the Dutch and German Societies, following Mms. Colmegna's article (see below).

AENDEKERKE, T. G. L., (Soil treatment and manuring for the culture of ericaeous plants). *Groen,* 1979, No. 10, pp 394 - 9.

Advice on improving drainage and adding fertilisers.

AMOS, G., Its time to plant winter heathers. *Garden News,* 6th Jan. 1979

Using container-grown plants.

AMOS, G., A "Bible" for Heather Fans. *Garden News,* 4th Aug. 1979, p 14

Yates Pocket Guide - "All anyone could ever want to know about this marvellous plant family".

BONFANTE-FASOLO, P. and GIANUNAZZI-PEARSON, V.,

Ultrastructure aspects of Endo-mycorrhiza in the Ericaceae. 1. Naturally infected hair roots of *Calluna vulgaris* (L.) Hull. (source unstated).

Heavy infection limited to cells of the root cortex. No evidence of digestion by the host plant has been observed. Fine SEM photographs.

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CARTER, K., A new heather - 'Egdon Heath'. *Newsletter of the Thomas Hardy Society. 1979, No. 38, p 4*

An account of our Society and the naming of E. ciliaris 'Egdon Heath'.

CHAPMAN, S. B., Some interrelationships between soil and root respiration in lowland *Calluna* heathland in southern England. *Jnl. Ecology,* 1979, Vol 67, pp 1 - 20

Root respiration contributes up to 70% of the carbon dioxide evolved from the soil.

CHAPMAN, S. B., *Annual Report of the Institute of Terrestrial Ecology,* 1975, pp 24 - 5

A summary of the work contained in the previous paper.

COLMEGNA, V., Societa inglese della Eriche (Heather Society) por gli appassionati inglesi e non. *Il Giardino fiorito,* 1979, Vol XLV, Nos 7/8, pp 417 - 9

A good, illustrated, account, by a long-standing member.

COX, D., Alpines and Heathers. *Garden News,* 24th March 1979, pp 20 - 1

"The hardy heaths and heathers are the finest shrubs that can be grown in the garden".

DAW, A., Heather Folk. *The Scots Magazine,* 1979, Vol 110, No. 5, pp 504 - 11

An excellent account based on the Sturrocks' "Angus Heathers" nursery at Forfar, illustrated in colour.

DAWSON, C., Heaths and Heathers, *Greenhouse,* 1979, Vol 3, No. 12. pp 35-7

General advice, including on Cape Heaths and with photos of *Erica vagans* 'Hammondii' *(sic), E. carnea* 'Mrs. Marwell' *(sic), E. aliaris (sic)* and *E.* 'Wishanger Pink' " (the last named having been extinct for 22 years).

DE ROOS, G. Th., *Erica scoparia* L. voor de Vlielandse flora verloren. *Gorteria,* 1979, Vol 9, No. 6, pp 243 - 4

Dug up in 1977 in its only Dutch station (where found in 1957), and so lost.

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Views on propagating the 500 *(sic)* species; photos include *E. carnea, "E. cinerea atropurpurea"* and *"E. nirvalis"* (twice).

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The restoration of heather moorland following severe disturbance., *Landscape Design,* 1979 (May), Vol 126, pp 33 - 6
How the scars from a gas pipe line in the Pentlands were dealt with.

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Demonstrates a relationship between the extent of mycorrhizal infection and host vigour in *Calluna* and four other Ericaceous plants in Austria.

(HALL, J.) Commercial Production of Heathers., *Gardeners Chronicle,* 1979, Vol 185, No. 2, pp 37 - 40
The practice at Windlesham Court Nursery.

INGWERSEN, W., Consider the Heathers., *Southern Gardener,* 1979, Vol 1, No. 7, pp 49 - 50
Typical sound advice.

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Have sales of *E. gracilis* reached their peak? And catastrophic care taken of heaths in supermarkets.

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A short account, with photo.

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Cleanliness against *Phytophthora, Cylindrocladium* etc.

McCLINTOCK, D., The status of, and correct name for, *Erica* 'Stuartii'., *Watsonia,* 1979 (Feb.), Vol 12, pp 249 - 52
The unravelling of this puzzle plant and the re-naming of *E.* x *praegeri.*

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The 16 spp. and 2 hybrids so far counted; (to which may now be added *E. scoparia* 2n=24, given, without authority, in "Elenco de la Flora vascular espanola" of E. Guinea Lopez and A. Cebellos Jiminez).

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Colour varies from dark rose-pink to pale lilac; height to 18 feet.

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Pharmacological properties reported for extracts from the leaves of *Calluna.*

METHENY, D., Heathers in the Northwest., *Pacific Horticulture,* 1979, Vol 40, No. 2, pp 19 - 26

As knowledgeable and comprehensive an account as one would expect from one of our Vice-Presidents.

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Effect of temperature etc. on flowering time of *Erica gracilis.* Work on extending the season by using *C.v.* 'J. H. Hamilton', 'H. E. Beale', 'Mullion' and 'Tib'.

MYGIND, H., (Wilt disease in winter heath, *Erica carnea* L.)., *Tidsskrift for Planteavi,* 1979, Vol 82, No. 4, pp 495 - 501

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NELSON, E. C., Historical records of the Irish Ericaceae with particular reference to the discovery and naming of *E. mackaiana.. Journal of the Society of the Bibliography of Natural History,* 1979, Vol 9, No.3, pp 289-99

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Two years trials on 'Elegant Pearl', 'Cuprea' and 'Carmen' showed slight differences between cvs.

OLIVER, E. G. H., A new species of *Erica* from the Bredesdorp district., *Bothalia,* 1979, Vol 12, No.2, pp 195 - 7

E. occulta - with "almost hidden, cream, flowers".

PABST, HARTMUT, Sortenschutz., *Gärtenborse + Gartenwelt,* 1979, Vol 30, pp 711 - 2

Plant patents now possible from Hanover. Coloured ;illustrations of the new *E. gracilis* 'Pfeiffer's Red Lady', 'Ingrid', 'Glaser's Rote' and of the type.

PERRIER, J., La bruyère de la Rochefoucauld., *Le Figaro,* 13th Sept. 1979, p 21

The successful enthusiasm of Bernard de la Rochefoucauld for heaths.

PMC., Such helpful heathers., *Evening Echo,* Bournemouth, 2nd Oct. 1979, p 14

"Heathers are nowhere near being included in the top ten". True? But perhaps these 250 words may help, a bit.

READ, J. D., The Biology of Mycorrhiza in Heathland Ecosystems with Special Reference to the Nitrogen Nutrition of the Ericaceae., in *Microbial Ecology,* Ed., M. W. Loutit and J. A. R. Miles, Berlin, Springer-Verlag, 1978, pp 324 - 328

The same, or a very similar, endophyte infests the roots of *E. bauera* and our native heathers. It assists the plant by taking up nitrogen in nutrient difficient

soils, and in the South African plants it is stored and released at times of drought-induced nitrogen stress.

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European Ericas resist freezing from -15° to -20° C; S. African Ericas only from -5° to -8°. *Calluna* cvs survived down to -30°. All tests in still air.

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Investigations of nursery routines.

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Simplification in five *E. gracilis* nurseries.

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Two more firms' methods examined.

WEIL, A., Heide - und Wildnisgarten., *Gartenschönheit*
Excellent advice, for those who can read German; all 34 pages of this quarterly magazine are devoted to it

WITT, H. H., Calluna-Seminar in Zwischenahn. Baumschul-beratungsring, Weser-ems, *Jahrbuch No. 14,* pp 50 - 65.
Report of an admirable conference on *Calluna* held in 1978, with detailed lists 100 cvs, propagation methods etc.

WOOD, J., "Hooked on Heathers"., *Garden News,* 3rd March 1979, p 12
An article about Marie Hobson's heather garden at Huddersfield.

In addition, there have been useful articles in our contemporaries, *"Ericultura", "Der Heidegarten"* and the Pacific Northwest Heather Society's *Newsletters.*

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