



LILIES
and Related Plants

75TH ANNIVERSARY ISSUE



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2007-2008

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endorsed by the RHS Lily Group.

Front cover: *Lilium* 'Apfelblüte' is one of Heinz Boehm's hybrids. He always
wanted to breed a red trumpet... (see pp. 87-90)

Back cover: *Lilium lankongense* was one of the key species used by
Dr Christopher North in his breeding programme (see pp. 47-52).
Here the species is growing in Pontus Wallstén's parents' garden
in Switzerland (see pp. 58-67)

Half title: *Erythronium californicum* showing the white anthers and
slender filaments in Trinity County, California (see pp. 80-86)

Committee members page:
Lilium martagon growing on Baker's Hill near The Wakes in
Selborne, Hampshire where Gilbert White gardened.
(see pp. 98-103)

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Editor
Caroline Boisset

The Royal Horticultural Society
LILY GROUP

Royal Horticultural Society Lily Group



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NOTES ON AUTHORS

Katsuro Arakawa has been working at the headquarters of Sapporo Foundation for Greener Parks since 2006. He was the director of Yurigahara Park in Japan where he created the World Lily Gardens 1987-2005, founder member of the Lily Society in Japan and is a major contributor to the Lily Group seed distribution. He was awarded the Lyttel Cup in 1998.

Vjacheslav Byalt, PhD, is a Senior Research Associate in the department of Vascular Plants in the Herbarium of the Komarov Botanical Institute of the Russian Academy of Science. His main interests are plants of the family Crassulaceae and the flora of protected territories including the flora of the Kholov River and of the steppe zone of Russia.

Cameron Carmichael is a retired professional horticulturist who gardens in 2 acres in central Scotland where he grows 3,500 different taxa including 100 lilies. He has a particular interest in garden plant conservation including old cultivars and is a member of the Plant Conservation Committee of the NCCPG.

Roy Carter was friends with Derek Fox for nearly 40 years through their common interest in rhododendrons and camellias. He was Derek's deputy chairman for the Essex Group of the NCCPG and succeeded him as Chairman in 1992. He took over coordinating the projected dispersed collections of Division 2 lilies (*Lilium martagon* and hybrids) and erythroniums when Derek became ill and has been a member of the Lily Group for just over ten years.

Jeff Coe runs his own company working in asset and corporate finance specialising in IT and is a freelance web designer and was a professional athlete. Jeff was the Lily Group Newsletter Editor from 2003 until 2006 and is currently the Group's Web Producer. He gardens in Hampshire by the sea just 20 miles south of Selborne.

Richard Dadd has been a member of the Lily Group for over 40 years, and served on the Committee for 15 years of them, working closely with both the then Chairman, Dee Martyn Simmons and Editor of both the newsletter and yearbook, Tony Hayward. He is interested in a wide range of plants especially lilies and alliums.

Kate Donald trained in horticulture at Wisley and the Royal Botanical Garden, Edinburgh. She was International Daffodil Registrar and Assistant Editor at the RHS and has recently been appointed International Lily Registrar. She is also an authority on pre 1930 daffodil cultivars and crofts on the west coast of Scotland.

Brent Elliott, PhD, is the RHS Society's Historian, having been Lindley Librarian for over 25 years.

Walter Erhardt is a teacher and horticultural author. He lives in Bavaria, Germany, and has for many years been interested in lilies and daylilies. He has written books about the genera *Hemerocallis* and *Narcissus*, but his most important works are *The European Plant Finder* and *ZANDER- Dictionary of Plant Names*.

Gennady Firsov, PhD, is Senior Research Associate and curator of the arboretum and nursery at the botanic garden of the Komarov Botanical Institute. Born in stanitsa Kumilzhenskaya in the Volgograd region, he took part in the investigation of the flora of the area, and made recommendations for the creation of the Lower Choper Nature Park in 2003. He is a member of the IDS, of the British Conifer Society and of the Russian Botanical Society.

Harris Howland has been interested in lilies for over 40 years and now maintains a relatively good collection of lilies and fritillaries. He has served on two occasions as chairman of the Lily Group and collaborated on the *Gardeners' Guide to Growing Lilies*.

Pat Huff, PhD, is Chairman of the Lily Group. An American living in Britain, she has responded enthusiastically to the horticultural opportunities presented by her adopted country. She gardens in Cambridgeshire and has special interests in species peonies and caudiciform succulents as well as lilies and fritillaries. She is Editor of Plant Heritage, the bulletin of the NCCPG, the Garden History Society News, and the Fritillaria Group Journal.

Steve McNamara originally trained as an engineer, but after a long spell in hospital started to work in the London Parks Department and re-trained in horticulture starting with a City and Guilds in Amenity Horticulture and then at Kew. After living in Canada for 18 years he moved back to Britain to be Property Manager and Head Gardener at Branklyn near Perth where are held several National Collections including the Mylnefield Lily Collection.

Brian Mathew, VMH was for 25 years, a taxonomic botanist in the Herbarium at the Royal Botanic Gardens, Kew, specialising in the petaloid monocotyledons. He is the author of many books on garden plants, in particular bulbous genera.

Alan Mitchell is an optimistic amateur gardener with a passion for growing lilies who lives in Scotland. He finds their difficulty a challenge and their diversity and beauty endlessly engaging and therapeutic.

Gian Lupo Osti is an Italian dendrologist and past President of the International Dendrology Society. He gardens in Northern Lazio on the hills overlooking Lake Bolsena; he is particularly interested in peonies.

Charles and Lee Reynolds both served in the Australian Army. Lee joined the Education Corps and when she left became a Business Manager and Consultant. Charles has a degree in cello performance and after playing in the Western Australia Symphony Orchestra joined the Army as an Artillery Officer serving on several occasions overseas. He is now in the Reserves, and responsible for the entertainment taken to Australian forces overseas.

Arne Strid is Director of the Göteborg Botanical Garden and has a particular interest in the flora of Greece and author of several books on the subject.

Pontus Wallstén, is a student at the University of Westminster in London, where he studies Film and TV production. When he is not behind a camera, he can be found in his parents' garden in Switzerland, taking care of his collections of rare plants from all around the world. The highlight of these collections are the lilies, which Pontus spends a lot of time photographing thereby combining his two main hobbies.

From the Chairman

Pat Huff writes an introduction to the Lily Group and its history in recent years.



“Amateurs determined to grow even the apparently ungrowable” is the way Brent Elliott describes the membership of the Lily Group. His fascinating article (see pages 28-35) chronicles the Group’s inception in 1932 and its activities up until 1990, the beginning of the end of the twentieth century. Although there have been some fundamental changes over the Group’s 75 year history, Brent’s characterisation of our members is as true now as it ever was. Despite the presence of many professional gardeners and nurserymen amongst us, we are

still all “amateurs” in the original sense: lovers of these beautiful, demanding and often exasperating plants.

Taking up the history of the Group where Brent left off, Harris Howland was succeeded as Chairman of the Group by Tim Whiteley. Tim’s woodland garden on the Bucks/Northants border is one of the best places in England to see lilies. (And snowdrops. And woody plants, particularly the genus *Euonymus*.) His encyclopaedic knowledge of the genus combined with his experience as an RHS judge and his international contacts throughout the lily world ensured that the Group was always in touch with the latest developments in breeding and cultivation.

Tim was Chairman when I joined the Committee in 1998. Although the founding members of the Lily Committee back in 1931 included such illustrious names as Frederick Stern, Arthur Grove and Amos Perry, at my first meeting I was in the company of the likes of Tim Whiteley, Harris Howland, Michael Upward and the late Derek Fox (see pp. 15-17). When I met him Derek had already published the indispensable *Growing Lilies*, and created the wonderful Bullwood hybrids such as ‘Lake Tahoe’ and ‘Lake Tulare’. These lovely lilies are now sadly rare in cultivation but incredibly sought after when they turn up in the trade or in the Group’s bulb auctions. Despite his immense prestige, Derek was funny, modest and very friendly to a newcomer. When I first joined the Committee, two other links to the Lily Group’s heroic past were also still around, and equally helpful. Dee Simmons (see pp. 5-8) and I spoke regularly on the phone, and I sat next to Bill Baker at the lunch celebrating Harris Howland’s being awarded

the Lyttel Cup. When I mentioned that I liked fritillaries as well as lilies, he dropped his voice and whispered conspiratorially that he had always found them “drab, brown little things”. Although he was a skilled and enthusiastic lily hybridiser, Bill believed that such plants were destined to go out of cultivation sooner or later, so he only registered four of his many creations. After his death in 2001, the Group was given his lily library and collection of bulbs. Their sale led to the establishment of a Bill Baker Fund that goes to support notable achievements in the lily world.

After Tim stepped down as Chairman of the Committee, Harris Howland was prevailed upon to take over once again. As well as having an expert’s eye for a good lily, Harris has a knack for strengthening the Committee. He persuaded Alisdair Aird to join, as well as nurserymen Richard Hyde and Nigel Rowland, and got Alan Hooker back again to do the seed distribution. For a number of years he and Colin Crosbie formed an irresistible double-act at the annual bulb auction. Under his leadership, the website started by Ian Boyd assumed even greater importance with Jeff Coe as webmaster.

The biggest event of this period was undoubtedly the 2004 International Lily Conference, masterminded by Tim Whiteley and attended by dozens of members from all over the world. After days of fascinating lectures and garden visits, the conference culminated in a lily show at Wisley and a gala dinner where John Lykkegaard was awarded the Lyttel Cup.

Today the Lily Group faces a number of challenges, some of them to its very identity. Brent reports that “in 1978 Council decided that the Committee should become semi-independent”, and we have remained that way ever since. The Society is now asking fundamental questions about how (and if) the Lily Group fits into its larger picture. Our “semi-independent” relationship is no longer tenable, and we must redefine it. The Committee is grappling with various possible outcomes, and was helped and encouraged by the frank exchange of views that took place at the 2007 AGM in Birmingham. Along with the challenges there is a plethora of exciting opportunities. E-mail allows us to keep in touch with an ever-increasing number of our members without depending on an expensive and unreliable postal service. The internet can be mined for the most extensive and arcane information on lilies. Plant breeders keep on coming up with ravishing new hybrids while there is simultaneously much greater awareness of the importance of keeping the older ones in cultivation. In 1932 Frederick Stern said in Council that “there is no doubt that there is a want among members and the public to join some body devoted to lilies and their culture, where they can air their views and hear other views on their especial subject”. Seventy-five years on, it’s still true.

Mrs D.A. Martyn Simmons

Richard Dadd writes in appreciation of our late President, Mrs D.A. Martyn Simmons, who was an inspiration and driving force within the Lily Group for more than 30 years.

M^{RS} D.A. MARTYN SIMMONS, who died at home on 17 November 2004 at the age of 92, was one of the most outstanding lily growers in England during the second half of the last century. She joined the Lily Group Committee in 1963; was its Chairman from 1982 to 1990, and 1994 to 1995; and thereafter became President. She also served on RHS Floral Committee B (whose main remit was trees and shrubs) from 1965 to 1997. Her name will forever be associated with Quarry Wood, the large woodland garden in Burghclere where she cultivated lilies and many other plants from 1954 until her death.

Mrs Simmons – Dee to all her friends – was born Daisy Adeline Halpin (her given names not always spelt thus) on 23 October 1912 in Janesboro, Co. Limerick (now in the Republic of Ireland) where her father was an engineer. She spent her childhood in Ireland where she acquired an interest in plants from her mother, but later moved with her family to the Southampton area. In 1939 she married Martyn Alan Simmons, a miller and engineer.

By the early 1950s Mr and Mrs Simmons were living near Newbury in Berkshire, but looking for a larger property. They found Quarry Wood, a large house and woodland garden of 15 acres, on the road to Winchester a few miles south of Newbury but just across the border in Hampshire. It had come onto the market following the sudden death of its owner, Walter Bentley, in April 1953. He had been a keen lily grower and one of the founder members of the Lily Group in 1933. When he acquired Quarry Wood in 1934 it consisted ‘largely of an expanse of unkempt, rough grass, drifts of bracken and scarcely controlled weeds. It was bounded on east, west and south by neglected woodland, overrun with brambles and tangled undergrowth.’ In 19 years Mr Bentley had transformed this wilderness and planted magnolias, rhododendrons and many other trees and shrubs to create a haven for the rare species lilies that interested him. But nature is always keen to reassert herself, and with the property standing empty and neglected for over a year, and proving difficult to sell, it was going downhill.

When Mr and Mrs Simmons purchased Quarry Wood in 1954 they were comparative novices, and had not quite realized what they were taking on. These difficulties were compounded by a series of bizarre events recounted by Anthony Hayward in ‘A Garden called Quarry Wood’ (*Lilies & Related Plants, 1992-1993*, pp. 133-138). The only ray of sunshine at this time was the arrival of west countryman Maurice Woodgates to take up the post of gardener. The subsequent



Dee Simmons and her husband Martyn admiring an acer in the garden at Quarry Wood.

partnership of Mrs Simmons and Mr Woodgates turned out to be a winning one: the garden once more became celebrated for its lilies, and Woodgates remained at Quarry Wood for the rest of his working life.

Over the years Dee transformed herself from a beginner to an acclaimed expert: so much so that in 1963 she was fêted by the North American Lily Society (NALS) when she made a coast-to-coast trip in the USA. As well as taking in the

21st Annual Show of the Garden Club of Virginia at Ashland, and the NALS 16th Annual Show at the National Arboretum in Washington (DC), she visited many of the great names in lily growing at that time and their gardens. At the NALS show she was delighted to meet many of her correspondents – ‘a happy experience to pin faces to names’ as she put it. Some of them would later visit Quarry Wood. She ended her journey in the Californian mountains looking at rare lilies in their natural habitat. Dee recalled it as a memorable trip, full of warmth and kindness.

Dee was a charming and persuasive woman, warm and effusive, affectionate to those she took to; but her outgoing nature concealed an inner strength and determination – although she did not invariably get her own way. Remarkably, during the 40 years that I knew her she always had the zest and appearance of someone ten years younger. She was an enthusiastic networker, long before that term gained general currency, and had many contacts at home and abroad – particularly in Australia, New Zealand and the USA.

Dee was catapulted into the chairmanship of the Lily Group Committee in 1982 during the middle of a meeting, immediately following her predecessor’s resignation. Chairing meetings was not her forte, but she proved to be adept at spotting people with suitable talents, then recruiting and motivating them to help the cause of lilies in general and the Lily Group in particular. During her chairmanship she gathered about her a small nucleus of talented and hard working Committee members to put her ideas into effect: building up the Group by offering its members an extensive programme of lectures, shows and outings, attractive publications, and an internationally renowned seed distribution scheme. There were also several one-offs such as the distribution of the North lilies in 1985, and she also devised ways of improving the financial position of the Group. At Lily Group functions she was always highly visible, introducing herself and welcoming members – especially new ones.

Throughout most of Mr and Mrs Simmons’ time at Quarry Wood the garden was open to visiting gardening groups. From time to time it also hosted international lily conferences and the Lily Group itself. Dee and her husband Martyn were generous hosts, and on such occasions a marquee would be erected on the spacious lawn to the south of the house where drinks and refreshments would be served. These gatherings were very popular, and guests were free to wander around the 15 acres of grounds whilst Maurice Woodgates was usually in attendance. The garden suffered terribly from the great storms of 1987 and 1990 which felled many of the older trees.

Dee’s later years were, inevitably, saddened by the passing of so many old friends. Her husband Martyn, who had been such a great support, died in 1999 (Obituary, *The Times*, 21 June 1999) and Woodgates followed a few years later. Nevertheless, she continued defiantly to outface old age.

But, now that she is gone, how should we remember her? – As a generous woman who loved lilies, loved people, and brought them together – a memory that will be cherished by those who knew her for as long as memory lasts.

She is survived by her son, Anthony Martyn Simmons, and three grandchildren.

*Mrs Daisee Adelaine Martyn Simmons, plantswoman and lily grower
Born 23 October 1912, died 17 November 2004 aged 92*



Colonel Iain Ferguson was Chairman of the Lily Group from 1978 until Mrs Simmons took over in 1982 and wrote the following tribute.

During the 48 years that Sir Fred led the Lily Group he gathered around him the leading and most distinguished plantsmen of the day – even The President of the RHS was on his committee. When he, and most of his colleagues had gone, the Lily Group lost its very special position and became vulnerable. Oliver Wyatt, his successor and a friend of Dee's, was a grower and hybridiser but no business man and no match for the RHS "money men". When he was worn out the RHS appointed Frances Perry, a gardener and talented garden writer but too busy to have the Lily Group at the top of her agenda, particularly at a troubled time. It was Dee who stepped centre stage and who fired us all up with her infectious enthusiasm and her determination that the Lily Group would survive and flourish. She preferred to work from the position of Vice Chairman but there was never any doubt as to who the boss was. In 1982 she finally agreed to be Chairman which she should have done many years before. If Dee had not been there the Lily Group would have died in the mid 1970s. It is for that, and her friendship and advice, that I shall always treasure her.

Additional reference:

Dee Simmons by David Parsons *Lilies and Related Plants 1997-1998*, (pp. 88-90).

The conservation of wild lily populations in Japan

*For many years **Katsuro Arakawa** has been a major donor to the Lily Group's seed distribution scheme. Here, he describes the conservation work he is involved with in Japan.*

MY FIRST CONTACT with the RHS Lily Group was in the winter of 1989, when I was building the collection of live lilies at Yurigahara Park in Sapporo. I remember my excitement at the inspiring present of goodly amount of various lily seeds from the Group's seed distribution in the spring of 1990.

I owe many salutary lessons to this seed exchange – and not just that, but it has also brought me new friends in diverse corners of the world. I have had great pleasure from imagining each person's gardening life, from the letters and emails they send me.

Since spring 1996, we have organised our own domestic seed distribution, here in Japan. And our own Lily Society has now been established, grown from the initial nucleus of lily lovers brought into contact with each other through our domestic seed distribution. Some members are on the staff of botanic gardens, in charge of their lily collections. Our seed distribution helps to avoid inbreeding problems such as loss of vigour, and is a valuable fallback resource if and when strains are accidentally lost. The same of course is true of the RHS Lily Group's distribution, and seeds which we are able to supply to that distribution seem to play the same role.

Our Lily Society prints *The Lily Society News* in spring and autumn, and organises a Lily Tour in the flowering season. We have visited the World Lily Gardens at Yurigahara Park, private lily breeders, agricultural institutes in Hokkaido, and the natural habitats of *Lilium dauricum* and *L. japonicum*. In 2006 the Lily Society held a programme of lily lectures to celebrate its fifth anniversary.

We plan to hold such lectures every five years, and major topics for us will be the history of relationships between human beings and lilies, and the fragrance of lilies. It is 175 years since *L. speciosum* was taken back by Siebold and flowered for the first time in Europe. We have long been aware of the beauty of the lily's form and colouring, and now find great value too in its fragrance. There is also growing interest in the importance of the fragrance to the relationship between the lily and its pollinators, and in its relevance to perfume manufacture. Fragrant lilies like *L. alexandrae*, *L. auratum*, *L. japonicum*, *L. nobilissimum* and *L. rubellum* are Japanese endemics. Adding *L. longiflorum*, six species out of 14 native to Japan are fragrant.



Lilium dauricum at Hamatonbetsu on the coast of the Okhotsk Sea in January 2005.

Two lily species, *L. dauricum* and *L. medeoloides*, are present on Hokkaido, the second-largest island in the Japanese archipelago, which is where I live. Four species, *L. auratum*, *L. japonicum*, *L. maculatum* and *L. rubellum*, are endemic to Honshu, the largest island. Four other species – *L. concolor*, *L. lancifolium*, *L. leichtlinii* var. *maximowiczii* and *L. medeoloides* and *L. speciosum* – are also present or have in the past been recorded on Honshu, and *L. callosum* has been recorded from there, as well as from Kyushu, Shikoku and the Ryukyu Islands. *Lilium concolor*, *L. leichtlinii* var. *maximowiczii*, *L. speciosum* and *L. japonicum* notably the Hyuga form of *L. japonicum* are present on Kyushu, *L. concolor*, and *L. leichtlinii* var. *maximowiczii* and *L. speciosum* var. *clivorum* and some endemic *L. japonicum*s on Shikoku. *Lilium longiflorum* is or was confined in the wild to the Ryukyu archipelago. *Lilium alexandrae* is endemic to just three islands of that archipelago, and *L. nobilissimum* has been limited to just one small southern island, Kuchinoshima.

Lilium dauricum is mainly a coastal plant on Hokkaido. The bulbs establish their roots in coastal grassland or on shelves of the steep coastal cliffs. *Lilium dauricum*'s communities in coastal grasslands have been reduced by environmental effects, as their habitat has been altered by the installation of drainage systems for ranches, and/or by road building. Moreover, some populations are unable to self-propagate well from seed, as the young roots of seedlings are prevented from working their way into the soil by a thick layer of grass thatch. This thatch is now thicker than in the past, as fewer horses are grazed on coastal grasslands, now that tractors are used instead. Another possible cause of decline in *L. dauricum* is a reduction in the number of its pollinators. It is suggested that the pollinators of *L. dauricum* are the largeish butterflies, *Aporia crataegi* (black-veined white) and *Papilio machaon* (swallowtail). Both eat each host plants in their caterpillar stage. *Malus sieboldii* (Japanese crabapple) and *M. baccata* var. *mandshurica* (a variety of Siberian crabapple) are the host plants of *A. crataega*; *Glebniia littoralis* (silvertop) is the host plant of *P. machaon*. In the past, good stands of these host plants were present near sites of *L. dauricum*. Now, however, the host plants have disappeared from some habitats. *Malus sieboldii* and *M. baccata* var. *mandshurica* have in some places been destroyed by controlled burning in early spring. The young shoots of *G. littoralis* were cleanly picked out as the ingredient of a seasonal salad. *G. littoralis* lived on the coast of Ishikari close to my residence, but is now absent around declining communities of the lily. Although *G. littoralis* still thrives bravely in the nature refuge ten kilometers away, pollinators cannot survive outside the refuge.

In nature the range of *L. dauricum* was limited to coastlines and to some of the high mountains in Hokkaido. However, in the last 20 years this lily has been increasingly visible on roadside verges. As its distribution is expanded along roadsides in the high mountains, there is a fear that this artificial expansion of its distribution could contaminate relict communities.

Villagers in most *L. japonicum* regions campaign actively for the protection of this lily. There are two motivations behind this. Many people are fired by nostalgia, wanting to recreate the view filled with *L. japonicum* in full flower, which villagers used to see as a matter of course every year in the old days. Others hope to boost their secluded mountain hamlets by attracting a lot of visitors to see a hillside full of *L. japonicum* in bloom. Both groups talk about how the lily has been declining. Conservation activists and the Environment Ministry allege that the decline is caused by collecting, but my own belief is that it is caused by lifestyle changes at these mountain village, and by forestry depression.

Ishima, which I visited in 2004, is a small island nine and half a kilometers around, located east of Sikoku Island. Junior high school students here are absolutely committed to conserving communities of *L. japonicum* Ishima form.



Above left, *Lilium callosum* var. *flaviflorum* at Yurigahara Park. The lily was collected on Okinawa Island and propagated by scaling.

Above right, two different lilies share a niche together in the wild: *L. callosum* var. *flaviflorum* (right) and *L. longiflorum* (left).

Their parents told me that the slope of island used to be turned pink by flowers of *L. japonicum* every early May when they were their children's age. In those days the islanders all went up the mountain together each autumn, to clear-fell one evergreen forest plot for firewood for cooking. This worked on a 20-year rotation, taking 20 years to clear each plot in turn around the island. This system was environmentally optimum for the full life cycle of the lily, from germination to seed dispersal. But as bottled gas became common on the island the evergreen forests were neglected, bamboo thickets covered the hillsides, and *L. japonicum* rapidly lost its habitats.

Hard-up junior high school students have still been able to collect reasonable numbers of flowering *L. japonicum* from the hillsides, and it's been a tradition to sell these to the islanders, so as to help fund the school trip. This has been important for those old people who were unable to go to the hillside – they could enjoy the *L. japonicum* season with a vase of the flowers brought by the students. So in the hope of perpetuating *L. japonicum*, in gratitude for the lily's beauty and to follow in the tradition, the island's people now continue thinning and trimming in the dense jungle of evergreen broad-leaved forest, to promote the lily's seeding and growth.

When horses were kept as a source of power for cultivation, *Miscanthus sinensis* (Japanese silver grass) and *Imperata cylindrica* (cogon grass) growing on the slopes between the forest and the lowland fields were cleared out and used for litter, thatch and fodder. Trees and branches in the forest near human



Top, *Lilium japonicum* Ishima form from the mountain slope of Ishima Island.

Above left, *L. nobilissimum* in cultivation at Yurigahara Park.

Above right, *L. japonicum* var. *platyfolium* seen in the wild at Tottori Hanakairo Park.

settlements were regularly cut for the fuel. Now the grass is no longer cleared out of the grassland, as tractors need no litter or fodder; and the forest is untrimmed, now that rice is boiled on bottled gas cookers. So the areas of grassland and forest become darker and darker, impeding the growth of lilies and reducing their populations.

Some lily populations have been reduced by plant collecting: *L. japonicum*

var. *abeanum* is a case in point, or perhaps *L. japonicum* Hyuga form. Other lily communities have certainly been destroyed by developments such as dam construction, road building and estate development. However, it must have been often the case that habitats are dying through environmental changes such as those which result from failure to trim grassland and forestry in the old ways. It can be said that *L. auratum*, *L. callosum*, *L. japonicum* and *L. rubellum* are the species whose existence in Japan has been influenced most by human lives.

The Okinawa population of *Lilium callosum* (a population known from its yellow flowers as var. *flaviflorum*) was rediscovered for the first time in these 20 years. Yet it has already fallen victim to changing times, with changes in its habitat management. The island is in “Typhoon alley”, and the thatch which has been traditional for roofing material there has now given way to concrete. So grassland has been neglected, allowing over-abundant growth of Japanese silver grass over two metres in height, destroying almost all the lily’s habitats. On a visit last year we found just one population of 50 plants, where *Imperata cylindrica* grassland had been artificially weakened. As far as I know there is only one other population on the island now.

Lilium nobilissimum was endemic to Kuchinoshima island, Kagoshima Prefecture, where its habitat was restricted to the ocean cliff. *Lilium nobilissimum*’s Japanese name is Tamoto-yuri: Tamoto is the pouch-forming sleeve of Japanese clothing, and in the past men lowered on a bamboo contraption slung from the cliff-top to gathered the bulbs of the lily kept them in this pouch. This precarious undertaking seems to have been all too successful: the lily is said to be extinct in the wild now. A few cultivated plants preserve the species. However, in our Yurigahara Park collection this lily’s germination rate has now declined to about 20%, which I think must be caused by inbreeding depression. Although we will outbreed the strain with another strain next summer, I am not very hopeful for the future, over the next several generations. [Editor’s note: This lily is also in cultivation in the UK, and perhaps elsewhere, but from seed kindly donated to the Lily Group distribution by Mr Arakawa in the past, so these plants are unlikely to help with the inbreeding problem.]

Lilium alexandrae ranges over three islands of this same southern chain. Though it has been reduced by collection, it is sustained in the wild by the islander’s keen conservation work.

The only surviving habitats of *L. concolor* are now confined to Shikoku Island, and the wild population declines.

Lilium longiflorum, *L. leichlinii* var. *maximowiczii*, *L. speciosum*, *L. maculatum* and *L. medeoloides* are common lilies in their original habitats, through exemplary preservation and conservation – a textbook case.

Derek B. Fox 1926 – 2007



Roy Carter writes in tribute to one of the outstanding lily breeders of last century, Editor of the Bulletin (1981 & 1982) and key member for many years of the Lily Committee.

DEREK WAS BORN in Thorpe Bay, Essex in April 1926 and at an early age showed a keen interest in nature, an interest which was to remain with him all his life. In 1957 Derek and his wife Elizabeth (Betty), purchased a one acre overgrown plot on the edge of Hockley Woods just a few miles from where he was born. Here Derek and Betty created a woodland garden which, over the years came to be enjoyed by their many visitors. Being an acid soil the first choice of plants were those of the Ericaceae and he assembled collections of camellia, magnolia and rhododendron species and hybrids which, together with many exotic trees formed the structure which was to become home of the many plants of the Liliaceae family he grew.

Derek was particularly successful, despite the low Essex rainfall, in growing some of the large leaved rhododendrons such as *Rhododendron eximeum*, *R. macabeianum* and *R. grande*. Over the years he made many rhododendron and camellia crosses, the result of one such camellia cross being named 'Betty Fox' after his wife.

However, Derek's main love were his lilies. In the early to mid 1960s he began a hybridising programme using lily species found growing on the west coast of the United States of America resulting in the creation of the Bullwood Hybrids. His many creations such as 'Lake Tulare', 'Lake Tahoe' and 'Coachella' to name but a few, are still prized and sought after today, although rare in cultivation.



Two of Derek Fox's lily cultivars: **above** 'Lake Tahoe' and **below**, 'Lake Tulare'.



Recently members of the RHS Lily Group instigated a conservation project to save these magnificent plants.

Derek was a person very much involved at all levels in promoting the growing of lilies, being a former editor of the Lily Year Books and a regular contributor to both them and to those of the North American Lily Society. He also authored the RHS Wisley Handbook on lilies and in 1985 his monograph *Growing lilies* was published – a work still relevant today and sought after by would be lily growers.

He served for many years on the RHS Lily Group committee and was awarded the Lily Cup; also the Lyttel Cup for his work in connection with the genus. In 2002 he was honoured by the North American Lily Society by being awarded the E.H. Wilson medal. The citation read: 'In recognition of his life-long devotion to lilies'.

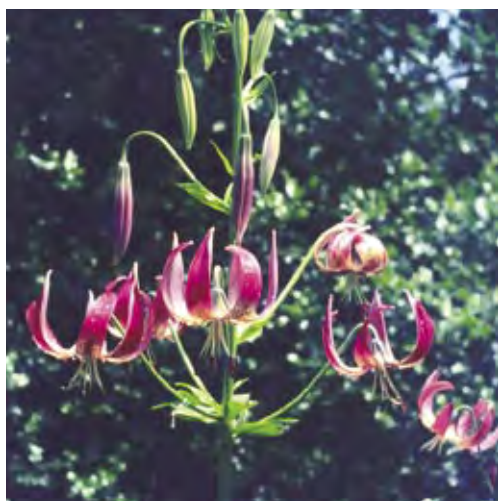
Derek was also a founder member of the National Council for the Conservation of Plants and Gardens (NCCPG) Essex Group and became its first Chairman on



Two more Bullwood Hybrids: **above**, 'Coachella' and **below**, 'Rosewood'.

its inauguration in 1980, a position he held until his retirement from office in 1992. His guidance and commitment to the Essex Group continued by promoting and supporting the aims of the charity, and also by opening his garden through the National Gardens Scheme. He was instrumental in proposing that the Essex Group hold dispersed National Collections of *Lilium martagon* and its Division II hybrids and that of *Erythronium* – a work still in progress.

He travelled widely in Europe, North America, the Baikal region of Central Asia and Nepal. Always, where possible, collecting plants or seeds which he generously distributed amongst his friends around the world. Derek had a great love of all plants and was a great plantsman. Derek will be missed by all who knew him for his generosity in gifts of plants and seeds, his willingness to offer help and share his knowledge with others, for his ready smile and great sense of humour, but the legacy of his plant creations will, hopefully, live on.



The lilies of Greece

Arne Strid writes about the five species endemic to this ancient land.

THE GENUS *LILIUM* is represented by five species within the borders of present-day Greece, but probably only two of them were known in antiquity. The famous “lilies” of Minoan wall paintings in Crete and Santorin (Thira) are not lilies as currently understood, but represent the sea daffodil, *Pancratium maritimum* (Amaryllidaceae), a species of sandy beaches still widespread throughout Greece although declining through development of tourist facilities.

Plant names used by Theophrastos (c. 370-285 B.C.) are often difficult to interpret, but it seems fairly certain that κρίνον (krinon) refers to the white Madonna Lily (*Lilium candidum*). Κρίνον το πορφυρούν (krinon to porfiroun) may refer to the scarlet *Lilium chalcedonicum* which occurs in mountains of the Peloponnese and Sterea Ellas, including Parnes or Parnitha near Athens, and may well have been known to Theophrastos. Ημεροκαλλῆς (imerokalles) has been interpreted as *Lilium martagon* but this seems more doubtful both for etymological reasons and for the fact that the latter occurs mainly in the northern parts of modern Greece, reaching its southern limit in Parnassos and other mountains of central Sterea Ellas.

Modern botanical exploration of Greece started with John Sibthorp (1758-1796) who on his grand tour in 1786-1787 and on a subsequent tour in 1794 gathered the material for the magnificent *Flora Graeca*, which appeared in ten folio volumes in 1806-1840, i.e., long after the death of Sibthorp. *Flora Graeca* contains 966 hand-coloured copper engravings based on drawings made in the field by the artist Ferdinand Bauer who had travelled with Sibthorp – alas, not a single lily.

Flora Graeca was preceded by an octavo work without illustrations, the *Florae Graecae Prodromus* (1806-1816), which amounts to a comprehensive Flora of the areas visited by Sibthorp, i.e. southern parts of present-day Greece and coastal regions of western Anatolia as well as Cyprus. Three lilies are mentioned in the *Prodromus*, viz. *Lilium candidum*, *L. chalcedonicum* and *L. martagon*. All three had been known to Linnaeus who in *Species Plantarum* (1753) cited them from “Palaestina, Syria”, from “Persia” [probably in error], and from “Hungaria, Helvetia, Sibiria, Lipsiae”, respectively.

In the *Prodromus* geographical information for *Lilium candidum* reads: “In Tempis Thessaliae. D. Hawkins. In hortis Graeciae frequens. Sibth.”. Apparently, John Hawkins, another wealthy English gentleman who had travelled in Greece partly together with Sibthorp and partly on his own, had observed this species growing in the Tembi valley in Thessaly (just south of Mount Olympus) whereas

Sibthorp knew it only from cultivation. Hawkins made several other remarkable discoveries. For instance, he was the first to observe the horse chestnut, *Aesculus hippocastanum*, growing wild in the same general area. At that time it was already known in cultivation in central Europe, having presumably been introduced via Istanbul, but its native distribution is restricted to a rather small area in Greece and southern Albania. *Lilium chalcedonicum* was reported from “montis Parnassi sylvisis, et in insulâ Zacyntho” (the latter certainly in error), whereas *L. martagon* was said to grow “in montosis umbrosis Graeciae” without further specification.

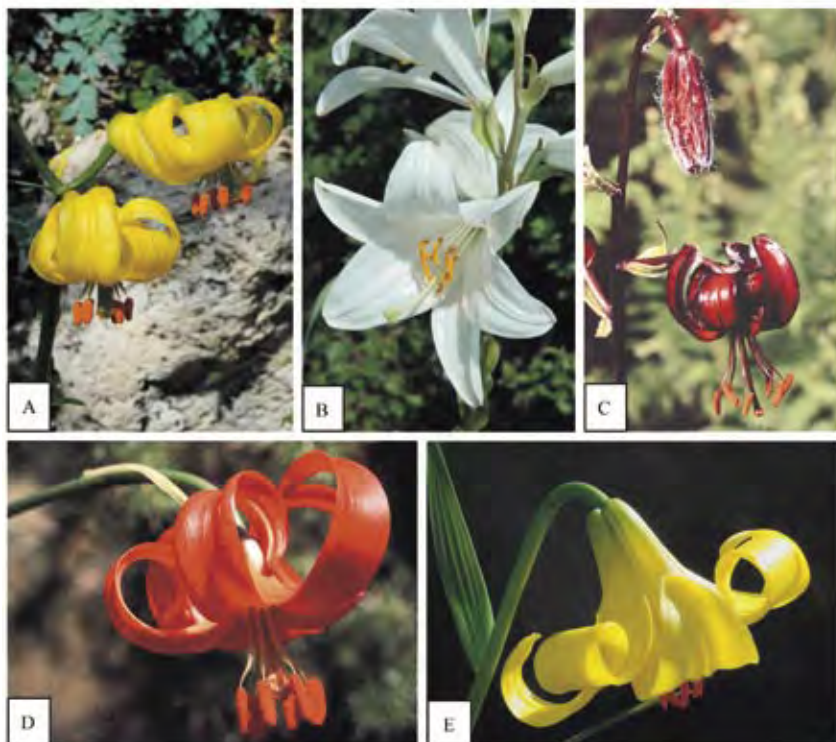
In *Conspectus Florae Graecae* (1904) – still the latest comprehensive Flora of Greece – Eugen von Halácsy listed *Lilium chalcedonicum* and *L. martagon* from several localities in the mountains of Sterea Ellas and Thessaly, and a new species, *L. heldreichii*, was added. The latter had been described by Freyn in 1880 from Mt Parnitha (Parnes) in Attica and was said to differ from *L. chalcedonicum* in the broader leaves and 1-flowered stem. As we shall see, however, the latter shows considerable variation according to the habitat and it is almost certain the *L. heldreichii* is nothing but a depauperate form of *L. chalcedonicum*. The white madonna lily, *Lilium candidum*, was reported “in rupestribus regionis montanae” as well as “frequenter colitur quoque in hortis”, indicating that it grows wild in the mountains and is also frequently cultivated. Finally, an interesting new species was added: *Lilium albanicum*, collected on Mount Smolikas in Epirus by the Italian botanist Antonio Baldacci. This species had been described already by August Grisebach in 1846, based on his own collection in 1839 from Scardus or Šar Planina, a large mountain range on the present border between Macedonia and Kosovo. It is a relatively small, early-flowering species with deep yellow flowers, growing in meadows at high altitude on non-calcareous substrate.

A distinct new species, *Lilium rhodopeum*, was described as late as 1952 by the Bulgarian botanist Dimiter Delipavlov. It was reported from the Bulgarian side of the Rodhopi mountains and has subsequently been found also south of the border, growing in damp meadows at an altitude of 1300-1800m. It has a very restricted distribution and is rarely seen in cultivation.

The five Greek species can be keyed out as follows:

1. Lower and middle leaves in whorls of 5-10.
 Buds more or less lanate to villous **3. *L. martagon***
 – All leaves alternate. Buds glabrous or puberulent 2.
2. Flowers yellow 3.
 – Flowers white or scarlet. 4.

key continued overleaf



Photos not to scale

The five lilies of Greece. **A:** *Lilium albanicum*, **B:** *L. candidum*, **C:** *L. martagon*, **D:** *L. chalcedonicum*, **E:** *L. rhodopeum*.

- 3. Perianth segments 8-12 cm, moderately recurved from a slender base, lemon yellow **5. *L. rhodopeum***
 – Perianth segments 3-4 cm, strongly recoiled, deep yellow. **1. *L. albanicum***
- 4. Perianth segments white, only slightly recurved. Inflorescence raceme-like. **2. *L. candidum***
 – Perianth segments scarlet, distinctly recurved. Inflorescence umbel-like or flower solitary **4. *L. chalcedonicum***

1. *Lilium albanicum*

This is a member of the *L. carniolicum* complex, and is sometimes regarded as a subspecies or variety of the latter. Taken in a wide sense *L. carniolicum* extends from the SE Alps through mountains of the Balkan Peninsula southwards to the Pindos, with closely related taxa in NE Anatolia and the Caucasus. Greek

material is relatively uniform and matches *L. albanicum*, which is also found in Albania, Macedonia and Kosovo. Closely related taxa, often treated as subspecies of *L. carniolicum*, occur elsewhere in the Balkan Peninsula. *L. carniolicum* subsp. *jankae* has recently been reported from Mt Voras (Kajmakčalan), but a photo accompanying the report (in the Greek journal *Fisis* 109: 20, 2005) clearly shows a rich-flowered form of *L. albanicum*. The latter had in fact been collected on Mt Voras (probably just north of the present border) already in 1893 by the Austrian botanist Ignatz Dörfler. *Lilium jankae* (*L. carniolicum* subsp. *jankae*) is a more robust plant with larger and somewhat paler flowers, occurring, e.g., on Mount Vitosha near Sofia. Plants from the Greek side of Mt Belles (the two dots in the north-eastern part of the map see pp. 25) are somewhat intermediate between *L. albanicum* and *L. jankae*, but closer to the former.



Lilium albanicum on Mt Gramos, alpine grassland over schist near the war memorial above Aetomilitsa, 28 June, 2004.

Characteristic features of *L. albanicum* are the relatively small size (25-40 cm tall), 2-4 or occasionally up to 9 deep yellow flowers only 3-4 cm wide, with distinctly recoiled, deep yellow, unspotted tepals. It grows in damp meadows on non-calcareous substrates (serpentine, schist or granite) at high altitudes, generally 1600-2100 m, and flowers relatively early, from mid-June to mid-July. In cultivation in southern Scandinavia it flowers in the end of May and beginning of June. It is relatively easy to establish but seems difficult to keep for any length of time, being susceptible to diseases.

2. *Lilium candidum*

The well known white lily or Madonna Lily has been cultivated in the eastern Mediterranean area since antiquity. In Christianity it became a symbol of purity associated with the Virgin Mary, it was widely grown in monasteries and is a common motif in religious art. In addition to its ornamental and symbolic value it had reputed cosmetic and medicinal properties. From Britain it is mentioned as early as the seventh century A.D., and it features in the plays of Shakespeare, apparently being a well known plant at that time. It is hardy as far north as southern Scandinavia.

The natural distribution of *Lilium candidum* is probably Greece (maybe extending somewhat further north in the Balkan Peninsula), SW and S Anatolia, Syria, Lebanon and Palestine (see pp. 25). It is found in macchie, phrygana and on rock ledges, often on limestone and generally at altitudes of 100-1200m, flowering in May and early June.

For several reports of *Lilium candidum* it is difficult to assess whether they refer to native or naturalised plants. It is not unusual to see the species in the outskirts of villages where it clearly subsists from former cultivation, but there are also populations that appear to be wild. I have seen it on rock ledges rather far from habitations, e.g., NW of the village of Driopi in NE Peloponnese and on Mt Orliakas in northern Pindos. A large population grows in phrygana by Pargos Dirou in the Mani Peninsula (S Peloponnese), and there are also reports from Monemvassia and Mt Arachneo. In north central and north western Greece there appear to be native populations at least on Mt Vourinos, near Konitsa and near Kastoria. Native status on the Aegean islands is more doubtful.

Lilium candidum is easily recognised on the large, snow-white flowers which are generally borne 5-9 in a short raceme. The tepals are only slightly recurved. Sfikas (Fisis 42: 31, 1988) has pointed out that cultivated Greek plants tend to be taller and stouter than the wild ones with basal leaves appearing in the autumn rather than in the spring. With such a long history of cultivation there has undoubtedly been some selection, and a detailed study of variation in Greece and elsewhere in the presumably native area would be of interest.

3. *Lilium martagon*

It cannot be established with certainty whether the Martagon Lily was known to the ancient authors. In his book *Paradisus Terrestris* (1629) the London apothecary John Parkinson undoubtedly refers to *Lilium martagon* when speaking about "those kindes of Lillies, which carry diuers circles of greene leaues set together at certaine distances, round about the stalke". In Germany where the species is native it was mentioned by Leonhart Fuchs (1542) and possibly earlier. In Denmark and southern Sweden it is known in cultivation at least since the late seventeenth century, having probably been introduced from central European stock and now naturalised, sometimes in large quantity, in old parks around mansion houses. In modern times it has become a well known garden plant with several commercial varieties.

In Greece the distribution of *Lilium martagon* follows the mountains southwards to Parnassos in Sterea Ellas (see pp. 24). This is part of a large total range extending from Spain and France to western Siberia. In Greece it is a species of somewhat damp, semi-shaded places in deciduous woods, bracken thickets and meadows, generally between 700 and 1800 m, flowering from mid-

June to the end of July.

Lilium martagon is easily recognised by the whorled lower and middle leaves and the rather numerous flowers borne in an extended raceme. Plants from central Europe have pale, usually spotted flowers and glabrous buds. Many of the Greek plants have rather dark flowers which are either uniformly brownish-purple or have indistinct raised spots; the flower buds are lanate, i.e., have long soft woolly hairs. Such plants have been called var. *cattaniae* or var. *sanguineo-purpureum*, but it is not clear whether all Greek plants share these features. Observations on variation in and between the Greek populations would be welcome.

4. *Lilium chalcedonicum*

The native distribution of this bright scarlet lily is probably restricted to Greece and S Albania, although species with a similar flower colour occur elsewhere, e.g. *L. pomponium* in the Maritime Alps (see pp. 24). Being a spectacular species it was taken into cultivation early, and pictures undoubtedly showing *L. chalcedonicum* appear in German *Kräuterbücher* from the sixteenth and seventeenth century; it is likely to have come to central Europe via Turkey.

Lilium chalcedonicum occurs in somewhat damp, semi-shaded, rocky places in open deciduous woods, *Buxus* scrub and meadows, generally between 600 and 1700 m and usually on limestone. It is rarely found in large quantity except maybe on Mt Iti in Sterea Ellas where I have observed large and healthy populations. It flowers late, generally from mid-July to mid-August. The tepals are generally bright and uniformly scarlet and strongly recurved with long papillae towards the base; also the anthers are bright scarlet. Slightly paler forms with indistinct spots are found occasionally.

Some authors including Halácsy (*Conspectus Florae Graecae*) and Hayek (*Prodromus Florae Peninsulae Balcanicae*) have regarded *Lilium beldreichii* as specifically distinct from *L. chalcedonicum*, differing in the consistently 1-flowered stem, lower leaves less crowded and wider, and leaves abruptly decreasing in size up the stem. Differences have also been cited in shape of bulb scales and stigma. Turrill (Lily Year Book 17: 34-36, 1954) examined fairly abundant material and came to the conclusion that there are no consistent differences. Having studied plants both in the field and in cultivation I fully agree with this view.

In nature *L. chalcedonicum* is generally 35-70 cm tall and has 1-3 or occasionally up to 4 flowers. Transplanted into good garden soil and grown in semi-shade they may be around 100 cm tall and develop up to 12 flowers. Three bulbs were transplanted from a population on Mt Olympus in 1975 to the Copenhagen Botanical Garden and subsequently to my private garden north of Copenhagen where they were grown successfully for 25 years. The bulbs could be divided

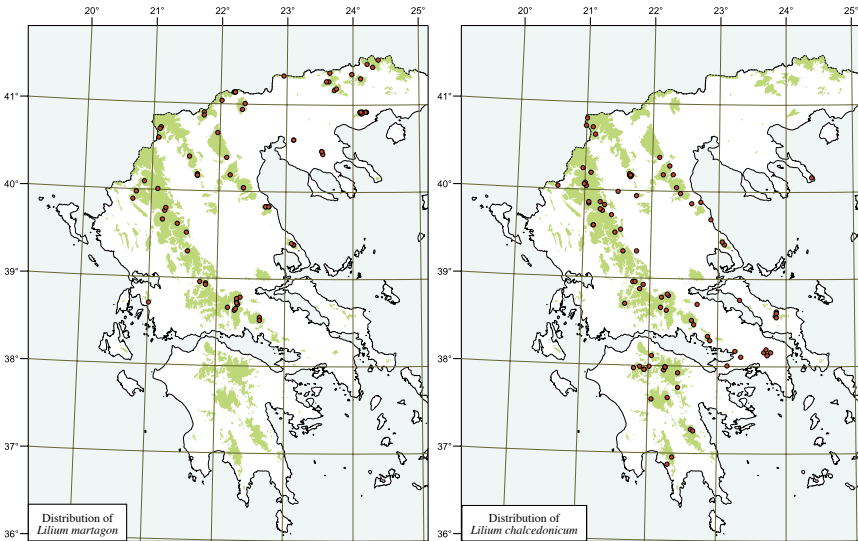
Right, *Lilium chalcedonicum*, individual with 10 flowers grown in the author's private garden in Denmark, originally from Mt Olympus. 1st August, 1980.

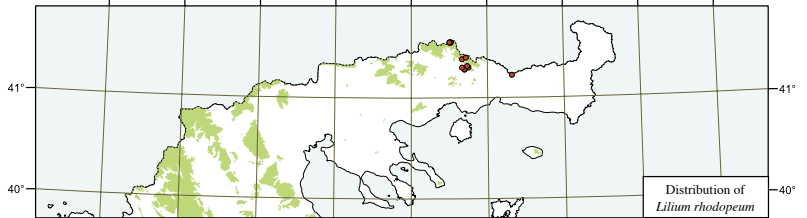
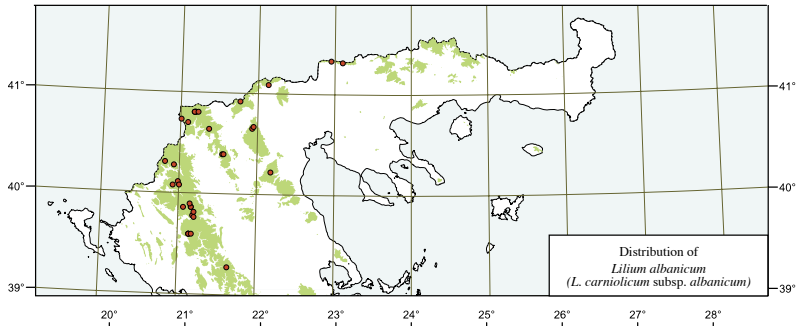


every three years, and hundreds of plants are now in cultivation from this introduction. They are fully hardy and cultivation is not difficult although it may be necessary to watch out for lily beetles. Peak flowering is usually around 1 August, and because of the late flowering seeds are not always produced.

5. *Lilium rhodopeum*

This is the rarest and least known of the Greek lilies. It was first discovered in 1951 in the Rodhopi mountains of southern Bulgaria and described in the following year. It has subsequently been found in a few more localities in this area as well as south of the border, growing in secondary pastures in clearings of coniferous or beech forest at altitudes between 1200 and 1800 m (see pp.25). It is a stout plant, 40-90 cm tall, appearing from a large bulb with plump whitish scales. The stem is covered with scattered lanceolate leaves almost up to the flowers. The latter are conspicuously large (8-14 cm in diameter) with a long slender base and





gracefully curved, bright lemon yellow, unspotted tepals without papillae. The stamens may vary from brownish-orange to bright red.

Even the largest populations of this species comprise only a few hundred individuals. There seems to be some natural variation in the number of flowers, some populations usually being 1-flowered and others regularly having 3-5 or even up to 7 flowers. The species is somewhat similar to *L. jankae*, but not likely to be closely related. The closest relative is rather *L. monadelphum* from the Caucasus.

Lilium rhodopeum is rare in cultivation and appears to be difficult, although I have seen it grown successfully and in considerable quantity by a forest station in the Greek part of the Rodhopi mountains. Two bulbs transplanted in 1981 to my private garden north of Copenhagen were grown for several years; one of them regularly produced a single flower per year but did not divide, whereas the other mostly produced only a vegetative stem. They have subsequently been propagated from bulb scales and plants have been established both in Copenhagen and in the Göteborg Botanical Garden. Cross pollination has recently resulted in development of a few capsules and we hope to be able to distribute seeds to other growers, thus securing the survival of this spectacular species in cultivation.

★ ★ ★

Sir Peter Smithers 1913-2006

In 2001 Sir Peter Smithers was awarded the Lyttel Cup and Jim Gardiner wrote in Lilies and Related Plants of his contribution to horticulture and the world of lilies. Sir Peter introduced two exceptional lily cultivars 'Vico Queen' and 'Arthur Grove' and described them himself in the 1997-1998 yearbook. Here, Gian Lupo Osti writes a personal tribute to this great man.

SIR PETER SMITHERS DIED SERENELY on 8 June 2006 at the age of 92, at his house, Vico Morcote on Lake Lugano. It was a bright early summer day.

In Sir Peter's book *The Adventures of a Gardener*, making reference to Joseph Addison¹, he wrote "*it would be nice to end life surrounded by the beauty which is my gardenAs long as memory lasts my garden will remain with me, like my own past life, a delightful dream which once I dreamed here on this mountainside.*" So this wish is how it happened.

Sir Peter's life was always varied and throughout it he had a grandstand

¹ Joseph Addison was the essayist and poet, who died in June 1719, on whom Sir Peter published a life, for which he was awarded a DPhil by Oxford University.

view of the world's events. During World War 2, he was in naval intelligence, alongside Commander Ian Fleming, later author of the James Bond series, where he helped provide the model for 007. This justifies the witticism that was current between his friends, "*but are you more greenfinger or Goldfinger?*"

After naval intelligence he was diplomat, Tory MP, Under Secretary of State, and, lastly, Secretary General of the Council of Europe. He was a passionate European along the lines expressed by Winston Churchill, but his opinions clashed with those of Anthony Eden.

He found comfort away from his political life in gardening.

A keen interest in plants and gardens was always a constant in his life since his school days. Everywhere he went, in Washington, Mexico, Winchester, Strasbourg, and finally in Vico Morcote he gardened. In Vico Morcote he created a small eco-system of magnolias, peonies, rhododendrons, wisterias, lilies and countless magnificent plants.

I met Peter for the first time, 30 years ago; I desired to know more about peonies than I could find at that time in books which were scarce and dated from the beginning of the [twentieth] century. A mutual British friend said to me "but there is Smithers who knows everything about peonies"!

He became my Mentor in the world of peonies but not only that. As a gift for his 90th birthday I translated into Italian his book *The adventures of a gardener* and with some friends we succeeded in publishing it: he was really enthusiastic about it.

Sir Peter Smithers gardened for nearly 80 years. He made remarkable gardens in Hampshire, Mexico, Strasbourg, Lugano and West Palm Beach. He grew an impressively wide range of genera, he collected extensively and bred many new plants.

I mourn a friend, a great gardener and, without rhetoric, a master of living – we say in Italy, *magister vitae*.



**Sir Peter and Lady Smithers
at Vico Morcote in October 2001**

A brief history of the RHS Lily Committee

*In an article first published in Lilies and Related Plants 1992-1993
Brent Elliott describes how the Lily Group came into being.
(with additional material by **Anthony Hayward**)*

ON 5 NOVEMBER 1931 Colonel Durham, the Secretary of the Royal Horticultural Society, wrote to 15 noted lily growers that “The Council of the Royal Horticultural Society has under consideration the formation of a standing committee for Lilies on the same lines as the existing Narcissus and Tulip Committee”, and invited them to a meeting on the 17th to discuss the matter. Those assembled at the meeting unanimously agreed that it was a good idea to form such a committee, and that its scope should be limited “for the present” to “Lilies, nomocharis, fritillaries and their hybrids”. The activities of the Committee were to include arranging lectures and a conference, maintaining a collection of lilies at Wisley, publishing a year-book, and compiling a register of hybrids.

Who were the founding members of the Lily Committee?

First and foremost, *Col. F.C. (later Sir Frederick) Stern*, banker, soldier and gardener of Highdown, Sussex, who appears to have been the initiator of the idea in Council and who was unanimously chosen to be the first Chairman, and in addition:

Maurice Amsler, medical officer to Eton College,

Roger Bevan of Crowsley Grange,

J. Comber, head gardener at Nymans,

John Couatts, then Deputy Curator at Kew and soon to be co-author of ‘Lilies’¹,

W.A. Constable of Paddock Wood nurseryman (shortly to transfer his business to Tunbridge Wells),

William Cuthbertson of Dobbies’ Nurseries (elected a Vice- Chairman),

Arthur Grove, compiler of the Supplement of Elwes’ Monograph of the Genus *Lilium* (also a Vice-Chairman),

Captain J.C.H. Jenkinson of Knap Hill Nurseries,

Sir William Lawrence, former Treasurer of the RHS,

Albert Pam of Wormleybury,

¹ The RHS Lindley Library possesses Fred Stoker’s review copy of Woodcock and Couatts’ ‘Lilies’, the title page of which Stoker annotated as follows: “nominally by H. Drysdale Woodcock KC and J. Couatts VMH....*but principally by W.T. STEARN whose text I have read in great part*”.

Amos Perry, the Enfield nurseryman,
G.M. Taylor of Dobbies and *R. W. Wallace* whose bulb nursery at Tunbridge
Wells was one day to amalgamate with Barr's.

The names of some additional members were chosen at that first meeting: Sir William Wright Smith of the Edinburgh Royal Botanic Garden; the plant collector W.R. Price; C.H. Curtis, editor of *Gardeners' Chronicle*; Fred Stoker, future author of 'A Book of Lilies'; R.D. Trotter the RHS Treasurer, and a number of amateur lily growers – Lt-Col. George Napier; the stockbroker Paul Rosenheim; C. R. Scrase-Dickens of Coolhurst; Mark Fenwick of Abbotswood; Andrew Harley of Glendevon; Robert James of St Nicholas; Lawrence Johnson of Hidcote and H.D. McLaren (later Lord Aberconway) of Bodnant. Council added the names of the garden designer George Dillistone and George Yeld, the York schoolmaster, who had been the first President of the Iris Society. The name of Arthur D. Cotton, who was to succeed Grove as a compiler of the Supplement to Elwes, was not mentioned at the first meeting but he was present at the second one. The Committee's size was fixed at not more than forty.

Such then was the initial membership of the RHS Lily Committee. The Committee recommended that 'in order to widen the influence of the Committee', some Corresponding Members be added to its number (Council put its foot down about the co-options and insisted that the term 'Overseas and Foreign Correspondents' be used). There are some discrepancies between the list suggested in the Committee minutes and that eventually published in the 1932 Year Book; here follow all the names, suggested or final:

- Canada Isabella Preston of the Ottawa Experimental Farm.
- USA T.A. Havemayer of the Horticultural Society of New York,
W.E. Marshall, author of 'Consider the Lilies', David Griffiths
of the USDA Bureau of Plant Industry, Carl Purdy, Dr A.M.
Vollmer, William Craig of Boston and A.B. Stout of the New
York Botanic Garden.
- France E. Debras and the Abbé Souillet.
- The Netherlands . . J. Hoog of Van Tubergen's Nurseries and Ernst Krelage.
- Germany Alfred Unger of Heidelberg and W. Kesselring of the Darmstadt
Botanic Garden.
- Austria Dr F. Lemperg.
- Bulgaria Professor Stoyanoff of Sofia University (The name of Kellerer,
head gardener at the Sofia palace, was also suggested and in
1936 Wilhelm Schacht, presumably Kellerer's successor, was
invited instead.).

- Greece S.C. Atchley of the British Legation in Athens, future author of 'Wild Flowers of Attica'.
- India E.P. Long, Superintendent of the Government Gardens at Simla and Delhi and C.C. Calder, Director of the Botanical Survey of India.

And, in a category that would best be described as peripatetic, the famous plant collectors George Forrest and Frank Kingdon Ward.

The first regular meeting of the Lily Committee was held on 11 January 1932. The two most important subjects of discussion were the Lily Conference, scheduled for 1933, and the contents of the first Lily Year Book. Among the proposed contents were articles on the garden cultivation of each of the three relevant genera, on commercial lily growing and on a lily disease; a bibliography of the three genera (which dwindled, in the event, to a list of books in the Lindley Library – the comprehensiveness of which can be gathered from the fact that it omitted Redouté's *Liliacées*); and a particularly ambitious project, 'A list of species of *Lilium*, *Nomocharis* and *Fritillaria* having against each species (i) a reference to a description, (ii) a reference to an authentic plate, if one exists, (iii) the habitat, it being indicated throughout whether the plates are coloured or not and whether the works concerned are in the Lindley Library'. This one also dwindled as what appeared in the Lily Year Book was a list of illustrations of lily species. The Year Book was eventually published on October 1932 and by 22nd November it had sold 531 copies – and nearly double that by the following March.

Two sub-Committees were set up to prepare for the Conference; one for exhibition and one to commission the papers to be presented. The most important of these were Krelage's historical article on the early distribution of lilies in Europe and Daniel Hall's article 'A Survey of Lily Soils' (written in collaboration with M.A.H. Tinker). The Lily Conference was held on 11 to 13 July 1933. Ellen Willmott reviewed it for the *Gardeners' Chronicle*, quoting the Abbé Souillet: "He cannot understand how England could ever have been called *perfidè Albion*, as he found it the reverse. He was amazed by the magnificent display of lilies in the hall...Were it not that the Lily Week had made such an indelible impression he would have thought it the 'dream of a Terrestrial Paradise'."

The schedule for the competitive classes for the 1932 Conference show is of interest, particularly in contrast to the present status of lilies at RHS shows. In fact the competitive element has all but disappeared from exhibits of lilies in the United Kingdom although it has become dominant in the shows of our friends in the lily world overseas, particularly in North America, Australia, New Zealand and Europe.

The 1932 Conference Show Schedule comprised over two dozen classes. The first fifteen were for a single stem of lilies including (as then listed) *LL. canadense*, *croceum*, *Duchartrei* var. *Farreri*, *martagon*, *pardalinum*, *Philippinense* var. *Formosanum*, *regale*, *Szovitsianum*, *x testaceum*, and *umbellatum* followed by classes for lilies in pots up to 12 in. in diameter, one for three lily species suited to rock garden or alpine house, and two classes for substantial table arrangements featuring lilies. Sadly the available records do not show the number of entries in what might seem today an impossibly ambitious schedule.

Following the Conference, two entries in the Committee minutes bring to mind the changes in social structure and attitudes which have taken place since 1933. First Dr Stoker criticised Conference Regulation 37, the second part of which read:

“Prize money is paid to the exhibitor’s gardener (when known) unless the exhibitor has informed the Secretary that he prefers some other arrangement.”

In reply to Dr Stoker, Sir William Lawrence said that such an arrangement was common to all shows where money prizes were given. A matter of such fundamental importance as this was duly referred to the Council but there is no record in the minutes of the Lily Committee of the result of Council’s deliberation upon it!

Secondly, in the minutes of the same day’s meeting, it was simply reported that the President (of the RHS) and the Chairman (of the Lily Committee) were to meet to discuss “the advisability of publishing a list of the President’s guests at the dinner which he gave on the first evening of the International Lily Conference”.

At the Council meeting of 25 October 1932, Stern had presented a memorandum calling for the formation of a lily group: “Many members of the RHS and others have asked me during the past year how to join the Lily Society! The Council will remember that the Lily Committee was created primarily to avoid another new Society being formed, but there is no doubt that there is a want among member and the public to join some body devoted to lilies and their culture, where they can air their views and hear other views on their especial subject”.

The objects of the Lily Group were to be: “to encourage the cultivation of lilies, fritillaries and nomocharis by holding meetings for lectures and discussions, by visiting gardens where these plants are well-grown, and by holding an annual dinner for those interested in the three genera.” It was open to all Fellows and Associates of the Society who wished to join with no extra subscription. The inaugural meeting took place in the Old Hall on 21 March 1933. The first Group visit was to the gardens of E.A. Bowles and Fred Stoker in July 1933.

An important feature of the Lily Committee’s activities during the immediately pre-war years was its Lily Research Sub-Committee consisting of Stern, Cotton, Stoker, Daniel Hall and Lawrence Ogilvie, who had reported to the Conference on lily mosaic disease. The first scientific activity of the Lily Committee was to

initiate a programme of chromosome counts of lilies. Sir Daniel Hall agreed to carry out the work at the John Innes Horticultural Institution, and the Bentham Trust donated £25 towards the costs of the work (“thus no financial burden would fall upon the Society”). The result of this labour was a three-part article in the 1934 Year Book.

In co-operation with staff of the RHS Garden at Wisley a number of research projects were proposed and commenced. There is virtually no record of the results in the minutes of the Lily Committee. Thus we read of experiments on the influence of water levels and drainage, attempts to grow lilies in pits of different soils, the study of root development in lilies, systematic comparison of methods of scaling and measurement of carbon dioxide levels around the bulbs of imported lilies together with its effect on storage rots. Like all contemporary biological research, not merely in horticulture, the experiments and trials were of an empirical nature and their design and objectives seem simplistic in the extreme by comparison with modern work chronicled later in Dr Waister’s article².

In 1934 Stoker began pressing for the collection of data on the identification of lily bulbs, the eventual result of which was W. A. Constable’s article “The Comparison of Lily Bulbs” in the 1946 Year Book (the original drawings for which are in the Lindley Library). Some proposals never reached fulfilment, among them Arthur Groves’ projected “synonymicon” of lilies and Thomas Hay’s demand for a comprehensive bibliography of lily literature.

After the conclusion of the 1932 Conference, the Lily Committee’s meetings were largely devoted to show schedules and the publication of the Year Book; almost the only technical discussion recorded in the minutes was the debate over whether or not *Lilium duchartrei* and *L. lankongense* were distinct species. By 1937 the Committee could record the verdict of J.D. Stewart of the Lily Garden, Oregon City, that “For some years we have regarded these Year Books as our most valuable source of information on lilies, and we appreciate this good work of the Royal Horticultural Society”.

In 1939, the Reverend Professor E.S. Lyttel presented a silver cup “to be awarded annually on the recommendation of the Lily Committee to someone who has done good work on behalf of Lilies, Nomocharis or Fritillaries”³. The first recipient of the Lyttel Cup was Arthur Grove, for his publications which “in

² Review of the Lily Literature 1988-1991 published in *Lilies and Related Plants 1992-1993*, (pp. 99-105).

³ Professor Lyttel also presented a silver cup for a similar purpose to the Alpine Garden Society, which embodied his other great horticultural interests. That original cup is still awarded today. The first Lyttel Cup presented to the Lily Committee has disappeared, presumably into a melting pot. The one presented today is a smaller cup created at a later date but still known as the Lyttel Cup.

the opinion of the Committee, had done more than those of any other writer to maintain and increase interest in lilies”.

The 1939-45 war caused a hiatus in the publication of the Year Book and a general winding down of the activities of the Committee which met annually for the duration. After the war business continued as usual, still under the Chairmanship of Sir Frederick Stern who was now the holder of the RHS Victoria Medal of Honour. In 1949 Committee played a part in organising a trial of lilies at Wisley. In response to an enquiry from Jan de Graaff in Oregon, it was decreed that bulbs for the trial must have been propagated vegetatively and *not* grown from seed. Thus the whole range of de Graaff's burgeoning strains of trumpet lilies were excluded despite their singular significance in the future development of the lily as a garden plant. Bulbs accepted for the trial were tested for cucumber mosaic virus at intervals by inoculation of test plants with sap from the scales and later the leaves. They were grown well away from herbaceous plants and weeds and were sprayed with nicotine twice weekly.

The first post-war Lily Conference was held in 1959 with the organisation largely in the hands of the RHS itself. At the accompanying show Oliver Wyatt, Major and Mrs Knox-Finlay of Keillour Castle and Oregon Bulb Farms (Jan de Graaff) were among those showing lilies, but no Gold Medals were awarded. The still new de Graaff trumpet lily 'Limelight', already a holder of the Award of Merit, was given a First Class Certificate. Reports of strong stems of *Lilium lankongense*, *L. cernuum* and *L. taliense* on the de Graaff stand remind us that it was not only hybrid development which was lost with the eventual demise of his Oregon Bulb Farms.

The fourth Conference was duly held in 1969. During the intervening ten years, two new species lilies had been described – *Lilium rhodopeum* and *L. ciliatum*. Three Gold Medals were awarded at the accompanying show: to Geest Industries showing de Graaff lilies; to the Dutch Lily Society and to the RHS Lily Group.

In the intervening years the greatest change, of course, was the death of Sir Frederick Stern in 1967. Though not always abreast of the times in his approach, he left a void which proved almost impossible to fill. In all the Standing Committees of the RHS, the Chairman is appointed by the Council and expected to be either a member or former member of Council. Oliver Wyatt was appointed Chairman in 1968, to be succeeded by Miss Frances Perry in 1974. If the records of the minutes are anything to go by, the meetings of the Lily Committee, still held only annually, became progressively shorter. Certainly the minutes tell virtually nothing of what transpired beyond the annual award of the Lyttel Cup. There were rumblings of discontent and we hear, now, of division of the Committee into two factions.

Faced with this continuing situation, in 1978 Council decided that the Committee should become semi-independent and concerned more with the affairs of the Lily Group. It would lose its status as a Standing Committee and thus be free to elect its own Chairman, with the Lily Group or the Committee selecting its members. Gradually thereafter it became known in RHS records and publications as the RHS Lily Group Committee. Colonel Iain Ferguson became Chairman and was subsequently succeeded by Mrs Dee Martyn Simmons, a member of the Committee since 1966.

It seems that the Committee, divested of the ties and privileges of Standing Committee status and without a real function failed, initially, to consolidate its new place in the Society. The succession of ten-yearly International Lily Conferences which had begun after the Second World War faltered in 1979 when lack of direction in the Committee led to postponement for a year and, eventually, abandonment. It is important to record here the part played in maintaining continuity during this uncertain period by members such as David Parsons, sometime Vice-Chairman, at that time growing lilies commercially, Derek Fox who also turned to the nursery trade, and Brian Halliwell, Assistant-Curator at the Royal Botanic Gardens, Kew.

The beginnings of a new function in the Committee could already be seen in the minutes in 1976 with the first mention of the Lily Group seed distribution. Operated at first by the Secretary, James Platt, it subsequently, in the hands of Mrs Molly Pottinger, became established as an important factor in encouraging the growing of lilies and consolidating the Lily Group. Her successor, Alan Hooker, has succeeded in expanding the appeal of this function worldwide – both to the east as far as Japan and Australia, and westwards to Canada and the USA. The modern dominance of lily hybrids in the horticultural trade has meant that more hybrid seed has become available. At the same time the virtual disappearance of most lily species from catalogues led to an insatiable demand for their seed among amateurs determined to grow even the apparently ungrowable.

In common with most small specialist organisations the Lily Group was not strong financially. In 1982 it received a gift from the well-known wild-life artist Raymond Booth, who is still a member today. As well as growing many lilies in his garden, Mr Booth delights in producing scientifically accurate studies of wild British plants and animals. His gift comprised a large and detailed portrait of *Lilium auratum* together with the copyright usually retained by the artist in such circumstances. Obviously the ownership of a painting is a mixed blessing for a corporate body without a permanent home and so it was sold, through a New Bond Street dealer, for a sum in excess of £3000.

In terms of publications the recent history of the Lily Committee and the Lily Group has been dominated by the enormous increase in costs and the consequent fall in demand. The Conference issue of the Lily Year Book in 1970 is still

required reading for enthusiasts on lilies and fritillaries with no less than 250 pages of text. However, the Year Book became an untenable financial burden on the Society and was discontinued after 1971. Agreement was reached on a more modest publication entitled Lilies and Allied Plants but this too foundered on the matter of costs and sales. To the continuing despair of librarians (even today!) there was an interim publication entitled The RHS Lily Group Bulletin, published as a 50th anniversary edition in 1982, before the Group fell back on the title Lilies and Related Plants published approximately biennially. There was a single supplement in 1990 which comprised the proceedings of the 5th London International Conference of 1989.

This brief history brings us almost up to date. Throughout the existence of the Lily Group there have been regular meetings, lectures, visits to gardens and, replacing the gradually faltering lily competitions at Westminster shows, a series of fine co-operative exhibits of lilies mainly from members' gardens resulting in the award of a string of fritillaries (very much the plants of the moment) and alliums (perhaps still awaiting a breakthrough in mass popularity) have also been produced at shows. With the incredibly successful 5th (1989) International Conference as a lasting tribute to her persistence and foresight, Mrs Simmons bowed out as Chairman of both Committee and Group in 1990 and has been succeeded by Mr Harris Howland. The Lily Group's membership stands currently at over 600 with nearly 120 overseas members in 21 different countries.

A Review of English language Monographs on the Genus *Lilium* 1873 – 2006

*Cameron Carmichael has assessed the lily literature of the past
150 years and shares his thoughts.*

HAVE YOU EVER ASKED or been asked if you could recommend a good book on lilies? The answer to this might be fairly simple, however if someone asked if you could recommend a good book on lily taxonomy the answer might be slightly different. My own attention to this matter was drawn a few years ago when a second hand book list appeared with five works on lilies, two of which I was familiar with and the other three I knew nothing about. Needless to say being a true Scotsman I decided to hold onto my bawbees and not invest in what might have been frivolous literature. I have since wondered just what I missed.

Hence this review...

We are extremely fortunate that the majority of the books listed have been written by lily enthusiasts, and the offerings by garden writers with their limited knowledge of the cultivation of lilies are few and far between. The ratings in the accompanying tables (pages 37, 38 & 39) refer to the 'meat' content. Many of the books, although they may not rate highly in the tables, are interspersed with useful hints and anecdotes. I would commend the majority for further study.

Methodology

In deciding the parameters to be selected for the accompanying spreadsheets I took into account the factors one would probably look for in the selection of a good lily book. The first five are self-explanatory.

Due to the nature of the article it is necessary to severely curtail many of the subjects otherwise I could end up with the whole of the Yearbook devoted to this review. I have deliberately omitted the ISBN numbers simply because they are not relevant to the early books.

Pagination

Pagination does not take account of things such as print or page size – i.e. one work is printed in full folio and some others are printed in octavo with every size in between. Works with less than a hundred pages can usually be regarded as samplers or an introduction to the genus.

The ratings are self-explanatory: P = poor; F = fair; G = Good; VG = very good; and E = excellent.

History; species; hybrids; cultivation; propagation are all self-explanatory.

Taxonomy

There are a number of parameters I could have included within botany such as physiology and morphology, but I considered that taxonomy was the most important.

Ecology

The subject of ecology has been and continues to be poorly dealt with in most works, and without a good understanding of ecology the subject of cultivation becomes a question of trial and error.

Illustration

I have not gone into the details of black and white or colour illustrations unless these illustrations are of an exceptional nature, in which case it is mentioned in

the accompanying notes. High quality colour and black and white reproduction has been available since 1870 – albeit at a cost.

Pests and diseases

With the recent ban on just about any pesticides which are effective we are being forced to adopt ‘stone age’ practices for pest and disease control. I therefore commend to readers the methods recommended in the pre-1950 works.

TITLE	AUTHOR	PUBLISHER	DATE / PAGES	HISTORY	TAXONOMY	SPECIES	ECOLOGY	HYBRIDS	ILLUSTRATION	CULTIVATION	PESTS & DISEASE	PROPAGATION
<i>Notes on Lilies and their Culture</i>	Benham & Harrison	Teutshel & Co	1873 109p	E	VG	VG	E	-	-	E	P	-
<i>Lilies and their Culture</i>	Dr Wallace	New Plant and Bulb Co.	1879 215p	G	E	E	E	-	VG	E	P	F
<i>A Monograph on the Genus Lilium</i>	H J Elwes supplements Grove, Cotton, Turrill	Various and RHS	1880	E	E	E	E	-	E	VG	-	-
<i>Lilies for English Gardens</i>	G Jekyll	Country Life	1901 72p	F	F	F	F	F	F	VG	F	P
<i>The Book of the Lily</i>	W Goldring	Practical Gardening Handbook John Lane	1905 98p	P	P	G	P	F	F	F	P	P
<i>Lilies</i>	A Grove	Jack	1911 116p	G	-	E	G	F	G	G	F	F
<i>Lilies</i>	H S Adams	McBride Nast & Co.	1913 116p	P	P	G	F	P	G	F-G	P	P
<i>The Lilies of Eastern Asia</i>	E H Wilson	Dulau & Co. The Stratford Road Co.	1925 110p	E	E	E	VG	-	F	-	-	-
<i>Garden Cinderellas How to Grow Lilies in the Gdn</i>	H M Fox	Macmillan	1928 269p	VG	-	E	VG	-	P-E	E	E	VG
<i>Lilies and their Culture in North America</i>	William N Craig	Florists Publishing	1928 144p	VG	F	E	G	G	G	VG	G	VG

TITLE	AUTHOR	PUBLISHER	DATE / PAGES	HISTORY	TAXONOMY	SPECIES	ECOLOGY	HYBRIDS	ILLUSTRATION	CULTIVATION	PESTS & DISEASE	PROPAGATION
<i>Consider the Lilies</i>	W E Marshal	W E Marshal	1928 92p	F	-	F	-	G	G	F	F	F
<i>Lilies</i>	H P Woodcock & J Couatts	Country Life	1935 242p	E	F	E	E	E	F-G	E	G	VG
<i>Lilies for Garden and Greenhouse</i>	D T McFie	Collingridge	1939 143p	F	-	G	-	G	G	G	G	G
<i>A Book of Lilies</i>	Dr P Fred Stoker	King Penguin	1943 48p	G	P	F	G	-	VG	G	P	-
<i>Garden Lilies</i>	A & E MacNeil	Oxford	1946 226p	F	F	F-G	F	F	G	G	VG	G
<i>Lilies for the Beginner</i>	G M Taylor	John Gifford	1947 79p	F	-	F	-	P	-	G	G	G
<i>Lilies for every Garden</i>	Isabella Preston	Orange Judd	1947 160p	VG	-	VG	F	E	F	G	VG	G
<i>Lilies for American Gardens</i>	George L Slate	Scribners	1947 258p	F-G	F-G	G	F	F	F	G	E	VG
<i>Lilies of the World</i>	W D Woodcock W S Stearn	Country Life	1950 431p	E	F-G	E	E	E	G	E	VG	E
<i>New Book of Lilies</i>	Jan de Graaff	M Barrows & Co	1951 176p	G	-	F	-	E	G	VG	G	G
<i>Lilies in their Homes</i>	A C Maxwell	Collins	1953	VG	-	F	F-G	G	F	F	F	F
<i>Lilies and their Cultivation</i>	M E Leeburn		1955 96p	F	F	F	-	F	F	VG	G	VG
<i>Lilies</i>	J G Campbell	Amateur Gardening Handbook No.21	1957 92p	-	P	F-G	-	F-G	F	F	F	F-G

TITLE	AUTHOR	PUBLISHER	DATE / PAGES	HISTORY	TAXONOMY	SPECIES	ECOLOGY	HYBRIDS	ILLUSTRATION	CULTIVATION	PESTS & DISEASE	PROPAGATION
<i>The Complete Book of Lilies</i>	de Graaff Rockwell & Grayson	American Garden Guild	1961 352p	G	F	G	–	E	F-G	E	E	E
<i>Lilies and their Cultivation</i>	H G Witham Fogg	Gifford	1961 149p	P	–	F	–	F	F	G	F	F
<i>Garden Lilies</i>	M E Leeburn	Collingridge	1963 139p	G	F	VG	F	VG	F-G	E	E	E
<i>Lets Grow Lilies</i>	Virginia Howie	American Lily Society	1964 48p	–	–	P	–	P	G	F	–	VG
<i>Modern Lilies</i>	M J Jefferson Brown	Faber	1966 137p	F	–	G	–	G	G	G	G	VG
<i>Lilies in Australia</i>	R M Withers	Australian Lily Society	1967 252p	G	G	G	F	VG	F	G	VG	VG
<i>Lilies</i>	Jan de Graaff Edward Hyams	Nelson	1967 142p	G	P	F	P	F	E	G	G	G
<i>Easter Lilies</i>	T Allen et al	New York College of Agriculture	1967 138p	E	E	1sp	E	–	VG	E	E	E
<i>Lilies</i>	Carl Feldmaier	Batsford	1970 228p	G	F	G	G	VG	P-VG	G	E	E
<i>Lilies</i>	O E P Wyatt	RHS Handbook	1972 23p	–	–	P	P	F-G	F	F	F	F
<i>Lilies</i>	Kenneth A Beckett	Charles Letts	1976 31p	F	–	P	–	P	F	F	F	G
<i>Lilies</i>	Patrick M Synge	Batsford / RHS	1980 276p	E	E	E	E	G	E	E	E	E
<i>Growing Lilies</i>	Derek Fox	Christopher Helm	1985 264p	G	G	E	E	E	VG	VG	E	E

TITLE	AUTHOR	PUBLISHER	DATE / PAGES	HISTORY	TAXONOMY	SPECIES	ECOLOGY	HYBRIDS	ILLUSTRATION	CULTIVATION	PESTS & DISEASE	PROPAGATION
<i>Lilies</i>	Derek Fox	RHS Handbook	1985 64p	-	F	G	-	G	VG	G	G	P
<i>Lilies of China</i>	Stephen Haw	Batsford	1986 169p	E	E	E	E	-	E	F	F	F
<i>The Lily for Garden Patio and Display</i>	M J Jefferson Brown	David & Charles	1988 192p	-	G	G	-	G	VG	VG	VG	VG
<i>A Plantsman's Guide</i>	M J Jefferson Brown	Ward Lock	1989 127p	P	-	F	-	F	G	G	G	G
<i>Lilies</i>	Victoria Matthews	Kew Guide Collingridge	1989 124p	F	F-G	G	F	G	VG	F-G	VG	G
<i>Lilies their Care & Cultivation</i>	M J Jefferson Brown	Cassell	1990 144p	P	-	-	-	VG	E	VG	VG	E
<i>Lilies</i>	Richard Bird	Apple Press	1991 128p	-	-	P	-	F	VG	F-G	G	G
<i>The Gardener's Guide to Growing Lilies</i>	M J Jefferson Brown and Harris Howland	David and Charles	1995 160p	F	F	G	F	VG	VG	F	G	VG
<i>Lilies</i>	E A McRae	Timber Press	1998 392p	F	F	VG	G	E	VG	VG	E	E
<i>Lilies</i>	Andrew Mikolajski	New Plant Library	1998 64p	G	F	F	P	F	G	G	G	F
<i>Lilies</i>	M J Jefferson Brown	RHS Handbook Cassell	2002 160p	P	P	F	-	F	VG	F	G	F
<i>Lilies</i>	M J Jefferson Brown Andrew Lawson	RHS	2003 160p	F	F	P	-	F	E	F	G	G
<i>Martagon Lilies</i>	E Eugene Fox	E Eugene Fox	2006 174p	E	E	E	E	E	G	E	E	E

Notes on selected works

1873 ***Notes on Lilies and Their Culture*** (Benham & Harrison)

This is probably the first book on the subject following the works of Spae and Duchartre in France, and Baker in the UK, whereupon each had recently published papers on Lilies. This work is an important historical document which is worth reading and has useful notes on the history, ecology and cultivation of the genus.

1879 ***Lilies and Their Culture*** (Second Edition) (Dr Wallace)

The work is described as “This little pamphlet on Lilies” by its author; published on a steam press, and dedicated to none other than Mrs Bateman¹, a famous horticulturist. The 1873 work of Benham and Harrison is brought up to date and with 215 pages the quality of the material is extremely good.

Illustrations are by means of woodcuts, some of which are quite exceptional, and superior to some of today’s colour photography.

Apart from some of the nomenclature, which is out of date, the contents of this book are just as relevant today as they were when first published.

1880 ***A Monograph on the Genus Lilium*** (H.J. Elwes)

Elwes’ famous Monograph was produced with no consideration for expense, and having just completed his five-volume work with Augustine Henry, *The Trees of Great Britain and Ireland*, he decided that what was required was a book of exceptional quality, some editions having hand-coloured plates which were reproduced full-scale in folio. Such was the quality of this work that a similar sized supplement was published soon after, and subsequent paperback supplements were published right up until 1962.

The Monograph is regarded as one of the great horticultural and botanical works of any genus and this is reflected in its scarcity and asking price. The going rate for a full set as a result of speculation was up until recently eight to ten thousand pounds. However within the last year an almost mint copy was sold at auction for five and a half thousand pounds.

It is rather sad that most of Britain’s foremost Botanic Gardens and horticultural institutions together with lily enthusiasts rarely ever see a copy, let alone own, this work.

1901 ***Lilies for English Gardens*** (Gertrude Jekyll)

Gertrude Jekyll requires no introduction today and in 1901 her fame was already

¹ Mrs Bateman was the wife of James Bateman the creator of the remarkable garden at Biddulph Grange.

well established. Therefore almost any work by her was likely to be sure of success, so much so that this work was printed no fewer than three times, the last reprint in 1982 having eight colour plates. From the chart it is obvious that her knowledge of cultivation was very good. Was her knowledge of the other parameters fair or poor, or did she simply, in her flowing prose, know how to write a good book?

1911 **Lilies** (W. Goldring)

With a foreword by none other than Elwes himself, this little publication in *The Present Day Garden Series* does not rate particularly highly on the 'charts'. A. Grove, who was an electrical engineer by profession, was one of Elwes' contemporaries and this book is full of most interesting snippets of information.

1925 **The Lilies of Eastern Asia** (E.H. Wilson)

This book written by none other than E.H. Wilson complete with 'lily leg' sustained when he fell off a cliff collecting *Lilium regale*, tells of his botanical explorations of China. It is a large format work, sadly the illustrations are of only fair quality, however the botanical information is excellent.

1928 **Garden Cinderellas: how to grow lilies in the Garden** (H.M. Fox)

1928 **Lilies and Their Culture in North America** (William N. Craig)

These two American books are relatively unknown on this side of the Atlantic. Fortunately with the advent of the internet I was able to obtain copies of both from the States within three days. Other books coming from British booksellers are taking seven to ten days.

Garden Cinderellas was written by Helen Morganau Fox – an amateur gardener who knew everybody who was anybody in the American lily world. Her foreword was written by none other than E.H. Wilson. Her knowledge of American lilies was profound.

The publication by William N. Craig followed a parallel course except that he was an American nurseryman whose book gave lots of hints to the would-be commercial grower. Craig had some experience of growing lilies in wet areas and he advocated the planting of lily bulbs on their side to allow water to drain from the scales. Craig also travelled extensively in the UK and he gives a useful insight into British gardens through the eyes of an American.

1935 **Lilies** (H.P. Woodcock & J. Coultts)

This is the first attempt to provide a reasonable working monograph on the culture of lilies. The book was produced with the co-operation of a Judge, H. Drysdale-Woodcock, and the curator of Kew, J. Coultts. Someone looking for an

affordable book with extensive information on the subject can usually obtain this work for around £10 to £15.

1943 ***A Book of Lilies*** (Dr P. Fred Stoker)

A delightful little book that was published during the war in the King Penguin series and was restricted to 48 pages. Dr Fred Stoker was a very keen lily exhibitor with an extensive knowledge of the subject, and he was also a contributor to one of Elwes' supplements. There are two plus points to this work. His English is concise; every word clearly means something, and there is a series of 1/12 colour plates at the rear of the book reproduced from Elwes' great Monograph.

1947 ***Lilies for Every Garden*** (This work supersedes an earlier book, 1929)

Isabella Preston is probably better known for her work on *Syringa x prestoniae*. A number of varieties were raised in various shades of pink. Regrettably the names have become confused, however they are superb subjects for the large garden. During the 1930s to 1950s she was well-known for her work on lily hybridisation. She was one of the first people to apply scientific principles of plant breeding in an attempt to raise disease-free hardy hybrids which would withstand the rigours of the Canadian climate.

1950 ***Lilies of the World*** (W.D. Woodcock & W.S. Stearn)

William Stearn who started off as a bookshop assistant, ultimately became one of the world's greatest botanists and with a concise and precise mind brought perfection to almost everything he touched. This book is essentially an updated Woodcock and Coutts. However it has gone up from 242 pages to 431 pages. The botanical information which was poor in the early edition has been improved, and there is a much wider coverage of species. Like the 1935 work it can be obtained at a reasonable price.

1961 ***The Complete Book of Lilies*** (de Graaff, Rockwell & Grayson)

The great Dutch-American lily grower Jan de Graaff produced three books on the subject. One on his own (1951) and another two with garden writers. Oddly enough the garden writers provided more interest to his work. On this 1961 publication (pity about the title) he co-operated with Rockwell and Grayson, two well-known American garden writers. This book with 352 pages gives extensive coverage of the subject with interesting notes on plant breeding.

1963 ***Garden Lilies*** (M.E. Leeburn)

The author of this book lived in Northern Ireland and this work supersedes the one published in 1955. This is a superior work and gives a practical insight into

growing plants in a climate that has cooler summers and wetter winters.

1964 ***Let's Grow Lilies*** (Virginia Howie)

This work, which is restricted to 48 pages, was published by the American Lily Society. Virginia Howie has made a successful attempt to produce a guidebook in comic form with lots of line diagrams. The booklet would be ideal for instructing people who have no horticultural knowledge or who experience learning difficulties.

1967 ***Easter Lilies*** (T. Allen et al)

I have made an exception with this work in as much as I have excluded reports from experimental stations. However the information given in this paperback is important – i.e. it gives considerable insight into plant breeding, physiology and commercial lily production - and is a must for anyone wishing to study these subjects.

1970 ***Lilies*** (Carl Feldmaier)

This book was originally published in German and it was so good that it was translated into English. It rates excellent in both propagation and pests and diseases and gives an insight into growing lilies under continental conditions.

1980 ***Lilies*** (Patrick M. Synge)

This book claims to be a complete revision of Elwes' Monograph of 1880. On publication it caused consternation amongst many members of the Group. One wag was heard to comment "St Peter revising the Old Testament". There is no doubt that the quality of this work does not compare with the 1880 publication and subsequent supplements. The quality of the illustrations and the wording of the text are certainly different.

To the majority of lily enthusiasts who have never seen Elwes' original publication, it was a welcome relief and it is the first and only work after Elwes which may be regarded as a complete botanical monograph. Patrick Synge (the Editor of the RHS and Secretary of the Lily Group) was never noted as a lily grower. However he was an author of several good books and with the facilities of the Lindley library at his fingertips he was in a unique position to carry out an extensive revision of Elwes' work. Unfortunately Elwes which extends to two rather large volumes plus paperback supplements, had to be condensed into one reasonable-sized book. The result is very concise English and rather dry reading. However, despite this, there is no doubt that Synge produced a publication which is the finest piece of literature on the subject since Elwes' publication in 1880.

1985 ***Growing Lilies*** (Derek Fox)

The author of this book, Derek Fox, spent his life in shipping and worked in order to get enough money to maintain body, soul and the precious lilies, for which he was famous. It is quite remarkable that someone who was neither a professional horticulturist nor botanist should have been able to produce such a book that was user-friendly to a very high standard. It is interesting to note that it has already been reprinted in paperback and let's hope that, like Jekyll, it goes to a third reprint. This is probably the most user-friendly book on the subject.

1986 ***Lilies of China*** (Stephen Haw)

Stephen Haw contributed to the lily section of the massive *Flora of China*. This is a superb achievement for a foreigner. It is a must for the botanist, but sadly is already considerably out of date.

1989 ***Lilies*** (Victoria Matthews)

This book by noted botanist Victoria Matthews who did the keys on the Genus *Lilium* in *European Garden Flora*, is in the Kew Guide series. It is an interesting photographic instruction book on the subject.

1998 ***Lilies*** (E.A. McRae)

E.A. McRae is a Scotsman educated at RBGE who moved to America and worked with Jan de Graaff on hybridisation and commercial lily production. The work gives extensive insight into lily hybridisation, propagation and pests and diseases. There is even a chapter on tissue culture. With 392 pages it gives comprehensive coverage.

2003 ***Lilies*** (M. Jefferson Brown)

Undoubtedly Worcestershire nurseryman and daffodil and lily breeder Michael Jefferson Brown was the most prolific author of lily books. With seven to his credit he certainly had plenty of practice! But the *pièce de resistance* of this seventh volume is without doubt RHS photographer Andrew Lawson's outstanding photographic studies of various lilies. The work was published in large format and could probably best be described as a "coffee table book".

2006 ***Martagon Lilies*** (E. Eugene Fox)

Just when I was saturated with reviews on lily books, many of which I thought were either similar or not quite up to the mark - i.e. we'd been there before, this refreshingly new Canadian book appeared. There is always a new perspective.

Lily Year Books

The Year Books of our and other societies have been regarded as outwith the scope of this article. However I think it is fair to point out that RHS Year Books, for example, date back to 1932 and many of them contain much of the subject matter for the books contained in this review. Any future lily author would be wise to consult them.

The Future

With around 50 books on the subject, plus even more yearbooks, one could reasonably argue 'do we need any more lily books?' The answer to this was given last year with the publication of *Martagon Lilies*; if you have something new to say, let's print it.

Perhaps we can consider some of the following:

- a) A limited edition three-volume reprint of Elwes' Monograph at a 50% reduced scale, the third volume to include the paperback editions and subsequent revisions. This could be issued over a period of perhaps five years. With modern methods of high quality colour printing and cheap publishing techniques, i.e. in Italy, China or Singapore, it should be possible to get this down to around £100 per volume.
- b) A reprint of Synge with an update on revisions.
- c) A completely new photographic work on species with colour one page to a species, and one page of text. Photography to be carried out by a photographer of similar calibre to Andrew Lawson.

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The horticultural collection of the Lindley Library is without doubt the biggest in the world, i.e. the total number of lily books in all the other libraries combined amounts to less than 50% of the RHS. Indeed only three volumes in this review were absent from this collection. It is fair to say that without the good offices of the RHS this review would not have been possible.



'Angela North'

Chris North

Alan Mitchell has gathered together memories of this exceptional lily hybridiser and valued friend.

WHEN CAROLINE BOISSET CONTACTED ME to ask me to write a piece about Chris North, but, as a “little challenge”, to avoid what I and others had already written about him, my first thought was that Caroline was being a touch ironic in her description of the magnitude of the challenge. However, any pessimism I felt about meeting the challenge was dispelled by the willingness of the people I contacted to write about Chris, someone they all respected as a lily hybridiser and valued as a friend. I also feel, as the more formal aspects of Chris’s career have already been dealt with in both national and lily-related publications on both sides of the Atlantic, it is appropriate that the following contributions are less formal in tone, a style in keeping with the way Chris North approached things himself.

Col. Iain Ferguson was the Chair of the Lily Group from 1978 to 1982 and, as the entertaining and insightful reminiscence that follows indicates, he appreciated Chris North’s abilities as a horticulturist and valued him as a companion.

During the summer of 1980 the Directors of The Scottish Horticultural Research

Institute became more and more concerned that their top scientist, Dr Christopher North, was devoting ever increasing time to developing new lilies. Furthermore, the 80,000 bulbs growing there were taking up a great deal of space. When visitors started to spend more time admiring 'Ariadne', 'Adonis', 'Orestes', 'Minos' and 'Odysseus' instead of appreciating the new varieties of soft fruit, the axe fell. Chris was ordered to change direction and to reduce the stock drastically and immediately.

Good man that he was, he turned to the Lily Group and asked me to remove as many bulbs as I could quickly. Fortunately, I was commanding my Regiment at the time and I suddenly remembered that I needed to visit the Regimental Recruitment Office in Dundee. Within days a Scots Guards landrover slipped into the Institute and collected eight large sacks of Chris North's precious bulbs and, most generously, a huge bag of strawberries.

The lily bulbs went to Vincent Square where our very enthusiastic and persuasive Vice Chairman and auctioneer, David Parsons, took charge of them. By then the strawberries had gone absent! Before the auction, at Chris's request, John Bond took a few hundred bulbs to the Savill Garden in Windsor Great Park. When I visited in 1983 they were flourishing. Bulbs also went to Kew and to Wisley. The remainder were auctioned to Lily Group members.

As far as I can recall there were three kinds of Asiatic hybrids, a pink, a white and a yellow. Chris told me that they were fertile diploids. There were 23 lankongense hybrids in all colours, scented but mostly sterile. There was one orange henryi hybrid and the most attractive of all, I thought, was a pyrenaicum/pomponium hybrid with scarlet flowers.

Shortly after this, Chris North retired to his beloved water mill and the breeding programme that had started in 1966 came to an end. Chris always said that a breeding project must be planned and organised by one man and not a committee. I think he was a man who preferred to work on his own and so this suited him. Certainly, he was the right man in the right place at the right time. When we lost him, we said goodbye to a lovely character, certainly unusual, even possibly a little eccentric. He was a delightful companion and, truly, the most exceptional plantsman and breeder.

At the end of my article, "Conserving North Hybrids – An Update On An Ongoing Endeavour", which appeared in the December 2006 Lily Group Newsletter, I included a "North Hybrids Response Form" as a method of trying to establish which cultivars Lily Group members grow in their gardens. One of the respondents was **Judith Freeman**, who has been, for many years, an admirer and grower of North Hybrids in her Vancouver nursery, The Lily Garden. Judith's reflections and comments are as follows:

I love Dr North's lilies, especially 'Ariadne', and my admiration increased after visiting him and his wife, Marie, in Scotland many years ago. Chris and Marie also stayed in my home in Oregon, en-route to their son's wedding, years and years ago and it was a delightful visit. As a reminder of these enjoyable times, I still have some of his original lily slides, given to me when I was editing the NALS Yearbooks.

Chris really inspired me to breed with L. lankongense, something I am still doing. I have found his 'Ariadne' (from which I have bred 'Beguiling', 'Descant' and 'Heirloom Lace') to be the most disease-free (and virus tolerant) of all the L. lankongense hybrids. I think it has enough davidii to over-ride the virus-susceptibility of lankongense, and just enough lankongense to over-ride davidii's susceptibility to botrytis in our climate.

I did my first embryo cultures in 1971, so isn't it a testimony to the influence of Dr North's work that I'm still breeding with many of his originals!

I'm also working with Barrie and Nigel Strohman in Neepawa, Manitoba to help them propagate as many of Dr North's hybrids as possible. I can start tissue culture from just a bit of a bud or scale bulblet then send the test tubes to them – or others – to grow out. I am keeping a little "mother stock" of these clones so there's always a healthy reservoir.

With reference to Barrie and Nigel Strohman, I was introduced to them by Charlie Kroell at the Diamond Jubilee NALS Convention, which was held in Edmonton, Alberta. Barrie and Nigel spoke about the collaboration with Judith Freeman (referred to in the last paragraph) and expressed a desire to obtain more North Hybrid bulbs. It is heartening to report that a number of other lily growers also expressed an interest in obtaining bulbs, hence my undertaking to put them in contact with Kirstie McManus, as, undoubtedly, *the* source that could supply them with the widest range of cultivars. While discussing North Hybrids with these growers I opined, and they agreed, that having more cultivars to work with could – a few years down the line – result in lily displays at future NALS Conventions that would both extend and enhance the already impressive displays.

The history of the North Hybrids has had and, hopefully, will continue to have many contributors, but few are as important as **Peter Waister** as the following salient points from an e-mail he sent me indicates:

When I retired from the Scottish Crop Research Institute, in 1988, I started a nursery mainly to propagate the North hybrids. There was little commercial interest from the larger propagators at that time because the lankongense hybrids were not mass market in the sense of being florists' lilies.

I obtained virus-tested stocks of the "North Ladies" series from the Glasshouse



Above left, 'Descant', Top right, 'Karen North', Above right, 'Theseus'.

Crops Research Institute (GCRI), where they had been cleaned up by arrangement with SCRI. GCRI had a mix-up in testing and supplied bulbs of 'Hannah' that turned out to be 'Rosemary' so I have nine of the ten North Ladies. I had hoped to have tested stocks of the Greek series too, but these had been released to other propagators and I do not know their fate in health terms. My own stocks of these are therefore open ground bulbs.

For the past 19 years I have maintained the tested stocks in an aphid-protected glasshouse. When I ceased trading I gave bulbs from this material to Bruce Robertson who had been assisting me and then started his own nursery. This operation folded a year or two later and there were a few years when I could not find someone to take on the stocks commercially under aphid protection.

I was very glad to be able to persuade the Border Belles' nursery to do the job, particularly since they had a background in plant health. Chris came down with me to see their premises and generously offered to assist with the provision of an aphid-proof house, while I donated the stocks. After the cessation of the partnership I do not know whether the stocks are still under protection.



Top left, 'Helen North', Above left, 'Beguiling', Above right, 'Ariadne'.

Fortunately, when I replied to Peter's e-mail, I was able to inform him that one of the Border Belles, Kirstie McManus, still had his original stock, in the aphid-proof house Chris had assisted with, and was aiming to offer bulbs, commercially, from this autumn onwards.

The work of the National Council for the Conservation of Plants and Gardens (NCCPG), which was founded in 1978, has led to the creation of over 600 national collections of plants that might have been lost to people with an interest in gardening. **Heather Berger** and her NCCPG colleague, Elizabeth Harrison, were not only close friends of Chris and Marie North, but they also played an important part in establishing the national collection of North Hybrids at the National Trust for Scotland's Branklyn Garden, in Perth, to which Heather modestly alludes in the following paragraph.

I first met Chris North in the 1980s by which time he had retired from Mylnefield and active lily breeding. As neighbours my husband and I became frequent

visitors at New Mill, often summoned to sample some of his excellent home-baked bread and his latest wine discovery. These occasions invariably involved active discussion on all manner of subjects – politics, philosophy, gardening, the arts, climate change – punctuated with precarious expeditions down his somewhat precipitous garden to inspect a treasured cypripedium or lily coming into bloom. When I ordered some of his lilies for my own garden, I told Chris that I hadn't been able to get 'Marie North', named for his wife, but had been sent 'Bronwen North' as a substitute. "Oh, never mind", said Chris. "Bronwen's my sister, she's a much better doer. Marie does tend to creep". Chris never really recovered from the death of his beloved Marie. Two days before his own death our local NCCPG group went on a visit to Branklyn Garden to look at the recently established collection of the Mylnefield lilies. It was characteristic of Chris's modesty that he suggested this name for the lily collection rather than the North lilies. Whatever their name, they remain a beautiful and lasting testament to a delightful man and a dedicated horticulturist.

On the 7 July 2007, approximately two years after Heather's and her NCCPG colleagues' visit to the Branklyn Garden to view the national collection of Mylnefield lilies, the Chair of the RHS Lily Group, Pat Huff, presented the Lily Cup to Branklyn's Head Gardener, Steve McNamara. Unfortunately, I was unable to attend the presentation ceremony, as I was variously searching for species lilies in California and attending the NALS Convention in Alberta (see pp. 70-79). However, while at the NALS Convention, I was actively involved in proselytizing about North Hybrids and, as indicated earlier, found willing converts to the cause of introducing these lovely plants to more gardens in North America. Furthermore, I had deployed my wife, Christine, who as a friend of Chris and Marie's and an admirer of his lilies was a willing deputy, to report on proceedings and take photographs. Peter Waister, who has played such an important part in conserving North Hybrids, was able to attend, but, unfortunately, Kirstie McManus was not. However, she made up for her absence by sending a pristine array of North ladies and Greek gods for everyone to appreciate and, if they chose, take home as a reminder of a day when those who respected Chris North as an exceptional hybridizer and valued him as a friend came together to celebrate his life in the national collection of his flowers.

★ ★ ★

A celebration of Branklyn Garden – a living tapestry –

Steve McNamara writes about the garden created by John and Dorothy Renton during the first half of the twentieth century which is now the home of the National Collection of Mylnefield lilies.

BRANKLYN WAS CREATED in 1922, when John and Dorothy Renton bought the land from a neighbour, Mr Aitkin, whose family owned the Orchardbank Nursery. They initially purchased around ½ acre on which they built Branklyn House. They later made two further acquisitions to the south, so extending their garden to the final two acres.

Dorothy Renton had been interested in botany since childhood. From land knee-deep in bishop weed, thistles and convolvulus evolved a hard tennis court, an ornate pergola and rose-beds. This was soon abandoned as an embarrassing mistake. What sort of garden did John and Dorothy Renton create? John described himself as the designer, and his wife was the real gardener. Dorothy has said, “The garden has evolved gradually and the principal aim has been to give plants the proper conditions – it is primarily a home from home for plants.” There were three major influences that helped Dorothy and John Renton to channel their ideas and to produce a garden of international acclaim. First, there was their clear interest in the Sino-Himalayan flora, second, their enthusiasm for complementary plant associations, perhaps influenced by the ideas of Gertrude Jekyll. The third development was the concept of peat-wall gardening.

Dorothy received several awards for her work in connection with the introduction and cultivation of new plants. Among them, the RHS awarded Dorothy the coveted Veitch Memorial Medal in 1954. The Scottish Rock Garden Club awarded Dorothy Renton three Forrest medals for her plant growing abilities.

The impression of the garden is that John and Dorothy Renton wanted to create a little paradise, which could be enjoyed all year round, irrespective of flowering plants.

One of the first things that visitors to the garden notice is the amount of plants in a small area. This stems from the legacy of plant collecting from an early stage in the development of the garden. The importance of the garden arises from their keenness in collecting and crucially recording all their plants and sources.

The Rentons’ association with many of the plant collectors of the era is well documented. George Forrest’s collection of *Rhododendron racemosum* was a favourite of Dorothy Renton because of its good colour and it could be cut back on a regular basis. This was and still is a common problem in small gardens such



A group of North Hybrids sent to Branklyn Garden by Kirstie McManus, one of the "Border Belles" who still holds some of Dr North's original stock in an aphid-proof house.

as Branklyn. Joseph Rock contributed other seed including *Betula albosinensis* var. *septentrionalis* that is still growing well today. The main collectors associated with the garden were Ludlow and Sherriff. They made several collecting trips to Bhutan and S.E. Tibet; among the seed collection were of plants such *Paraquilegia anemonoides* and *Stellera chamaejasme*. Many of the original plants have died out but replacement plants have been obtained and are growing well.

It is the overall design and plant collection that is so impressive. Visitors today will be in awe of the ordered labyrinth of rock gardens, peat areas, herbaceous borders and woodland areas. This all blends together creating a continuous evolving pattern of plants in which texture and form are as important as colour. A garden of this character could easily become a muddle, that Branklyn does not, is in part due to the skill with which plants are associated and in part to the constant, though subtle changes in style. One of the delights of the garden is that anyone visiting can take away ideas for use in their own garden.

The couple died within a year of each other, and donated the property to the National Trust for Scotland in 1968. The Trust remit is to continue to maintain the plant philosophy of the Rentons and can continually add to the collection with new introductions and interesting plants.

Branklyn now has four National Collections; amongst these are the Mylnfield lilies. Peter Waister, a good friend of the late Dr Chris North, donated our latest collection. Peter had kept the North lilies in virus free conditions in an aphid-proof



Pat Huff presenting the Lily Cup to Steve McNamara in July 2007.

environment for many years before handing the collection over to Branklyn. A collection was also given to Kirstie McManus a nursery grower who is charged with keeping the collection going in virus free conditions. Plants will be available to buy at Branklyn and therefore keep the Mylnefield lilies going in cultivation. Chris was a frequent visitor to Branklyn and was always complimentary about the plantings and our standard of maintenance. He was Head of Plant Breeding at the SCRI at Mylnefield, Dundee when his work on lily breeding began in 1966. Characteristics required from the new cultivars included adaptation of northern British conditions and freedom from virus disease, as well as vigour, elegance of form, unusual colours and an ability to stand without staking – in short, garden qualities rather than suitability for the florist.

The reasons Branklyn had decided to have the Mylnefield lilies as a collection is that they were bred locally therefore the climate in Perth is suitable, they are hardy plants resistant to virus, they don't require staking and they fill a major gap in the season of flowering plants, that is after the rhododendrons and meconopsis have finished. Branklyn would also like to extend its collection of lilies to include as many species as possible given the natural limitations of climate.

Today due to some fund raising in the past couple of years, we still add about 200 accessions per year. So, plant collecting is still alive and well at Branklyn. Like any garden it is constantly evolving with renovation and renewal done on a regular basis that is not surprising after 85 years of plant growth.



Dr A.F. Hayward (1933-2006)

*Dr Tony Hayward, a key member of the Lily Committee, was Membership Secretary and Editor of the Group's publications for 12 years. **Richard Dadd** recalls the breadth of Dr Hayward's interests and his many contributions to the Lily Group.*

IN 1986 THE LILY GROUP found itself (as it does from time to time) without a Newsletter Editor. Just when all options had been exhausted the Secretary of the Group received a letter from one of its members, Dr Anthony Hayward, a recently retired doctor and anatomist, offering to take on this task. For Tony, it was the start of an arduous 12-year period carrying out this and many other key tasks for the Lily Group.

At that time Tony and his family were living in Epsom where he was much involved in the affairs of the local Garden Society – in particular writing, producing and distributing their newsletter. His garden was also opened under the auspices of the National Gardens Scheme (the Yellow Book).

Tony had a life-long interest in wildlife and gardening and, as an only child, was rather indulged by his parents. Whilst still a schoolboy he was provided with a greenhouse in which to grow his orchids.

He graduated with a BSc (Special Anatomy) from London University and then qualified as a doctor at the London Hospital (Whitechapel). He gained his PhD at the Faculty of Medicine in Glasgow, and in 1961 was awarded a Wellcome Scholarship to study at the Carlsberg Laboratory in Copenhagen. His subsequent career took him to various London hospitals until his retirement. It was whilst he was at the London Hospital that he met one of the Staff Nurses, Barbara, who later became his wife.

In many ways the Newsletter is the most important publication of the Lily Group as it is the main point of contact with members. To be effective it has to be informative, well written, and sent out at set times of the year – something to be eagerly awaited. Tony's newsletters were all of those things: they were, by common consent, the best that members had ever enjoyed.

With the rapid growth in membership in the 1980s it became apparent that the Secretary's duties had become too burdensome for one person and would have to be divided. Thus, Tony also became the first Membership Secretary in 1988, continuing until 1998 when he retired from the Committee. His first task was to take over the computerized membership records that the Secretary had set up a few years previously, and transfer them to the Lily Group's own new computer. That same year he was also greatly involved with the organisation of the Fritillaria Conference (the genus particularly interested him) held at the Chelsea Physic Garden. And also, that same year, he moved house from the hurly-burly of suburban Epsom to the rural tranquillity of Lowbands in Gloucestershire.

The following year he also took on the editorship of *Lilies and Related Plants* (the Lily Year Book), producing three splendid issues commencing with the Proceedings of the 5th International Lily Conference in 1989.

There were three strands to Tony's life: his family; his work (teaching and research); and gardening (including competitive showing, lecturing and editing books). His catch phrase was "Make a difference!" He was quiet, thoughtful and attentive to detail - ideal qualities for the particular tasks that he undertook and so ably carried out. But, although undemonstrative by nature, he would plainly speak his mind when he thought it necessary. It was the Lily Group's good fortune to enjoy his many contributions to its work for so long.

Throughout his life Tony loved sharing his knowledge through giving talks. These were always delivered extempore and, when his memory started to fail, rather than use notes he gave up lecturing altogether. He died in January 2006 – ironically not from Alzheimer's disease but from mesothelioma, probably contracted during the refurbishment of one of the many hospitals in which he worked. He is survived by Barbara, a son and two daughters.

*Dr Anthony Frederick Hayward, anatomist and plantsman
Born 27 December 1933, died 16 January 2006 aged 72*

Lily 'Connecticut King', the cultivar first purchased by the author when he was 14 years old.



Growing lilies in Switzerland

***Pontus Wallstén** has modified and updated the article which first appeared in the Lily Group spring 2006 Newsletter, in order to include more recent and up to date information about his Swiss lily collection and exciting additions made to it since then.*

BEFORE GOING INTO DETAILS about the various lilies I grow, and how I became interested in them, I will start with a brief introduction: where I live and the climate we have in Switzerland.

I live in the French speaking part of Switzerland, bordering France, in what is called the “bassin lémanique,” which is basically a big plateau, which lies between the Jura Mountains and the Alps. The only problem with this basin is that the soil is clay based throughout, and does not have very good drainage, meaning that when it rains constantly for a week for instance, it's easy to end up with a few scattered ponds around the garden. Therefore, plants such as lilies, which require excellent drainage, have to be planted in beds with an improved soil structure.

It would be very difficult to summarise what kind of climate we have, because

it can be extremely variable from year to year, in that some winters for example, can be very mild, with almost no frosts, others can be extremely cold, with temperatures going down to minus 15°C. However, usually, autumns and winters are fairly mild, with temperatures from 10 to minus 5°C, and springs can be quite wet and alternately cold or warm. Summers are usually very warm and dry. Sometimes, we get what they call “Indian summers” which are autumns where the temperatures rarely go below 15 to 18°C for many weeks.

The lilies

I have been growing lilies since 1999, when I purchased my first three lily bulbs at the age of 14. They were bulbs of an asiatic lily hybrid, the golden yellow and orange ‘Connecticut King’, which has, since then, established itself profusely here in my borders in my parents’ garden. I guess that I must have over 30 of them now.

When they flowered for the first time at the end of June 1999, I was struck by the grace and beauty of the flowers, and that autumn, realised that ‘Connecticut King’ was not the only lily in existence, and purchased a few more hybrids. In the spring of 2000, I bought my first lily species, two bulbs of *Lilium speciosum rubrum*. By then, I had started to become more and more interested in lilies, and had started documenting them in increasing detail.

Time passed, and in June 2001, I went on a hike in the Jura, and next to the road, my eyes caught sight of a marvellously strong and vigorous *Lilium martagon*, with over 20 large deep pink flowers, on a stem over 150 cm tall. I think that it was at that moment that my real interest in lilies, and lily species, began.

I then started collecting lilies properly, first with the species commonly available at the time in Swiss garden centres, such as *Lilium pumilum*, *L. martagon*, *L. henryi*, *L. regale* and *L. lancifolium*. However, for me, that was not enough. I had been bitten by the lily fervour, and wanted rarer lilies for my collections. I therefore started buying lilies from France and the UK, by mail order, and got my hands on sumptuous lilies, such as ‘Black Beauty’, and species such as *Lilium leucanthum*, *L. superbum* and *L. canadense*. Since then, my lily collection has been growing at a rapid rate, with lilies from all over the world joining my collection each year. In January 2005 I ordered lily bulbs from China for the first time, bulbs of excellent quality, but the origins of which are not always certain to be from nursery raised plants, and might be collected in the wild. Since then, I have ordered a second time and most bulbs have flowered, and I have been fairly lucky in that approximately ninety per cent of the bulbs that flowered were in fact the correct species. (Bulbs that come from China are sometimes mislabelled or wrongly identified).



Lilium regale and asiatic hybrids flowering in the author's parents' garden in Switzerland.

The lily season usually starts for me around the end of May, with *Lilium pyrenaicum*, *L. pumilum*, *L. lijiangense*, and *L. bulbiferum* var. *croceum*, and ends at the end of September, with the last few flowers of *Lilium speciosum rubrum* and *L. rostbornii*.

I now feel that I should concentrate a little more on the title of my article, which after all, is entitled "Growing lilies in Switzerland". I have therefore decided to divide all the lily species I grow into their original locations, and go group by group, writing about how well they grow here in Switzerland.

Chinese and Japanese lilies

I will begin with the group that has done best overall, the Chinese and Japanese lilies. I grow several of these species, including *Lilium regale*, *L. rostbornii*, *L. bakerianum*, *L. davidii*, *L. leucanthum*, *L. sargentiae*, *L. speciosum rubrum*, *L. duchartrai*, *L. gloriosoides*, *L. lankongense*, *L. lancifolium*, *L. pumilum*, *L. taliense* (perhaps var. *kaichen*), *L. lijiangense*, *L. majoense*, *L. xanthellum luteum* and *L. sulphureum*, as well as a species I think might be *Lilium brownii*.

All these species spread profusely by various means (offsets, stem bulbils and



A Chinese species of lily from Chen Yi - possibly *Lilium davidii*, growing in Switzerland.

seed). They seem to have nothing against the wet winters and warm summers. However, there are two exceptions, *Lilium henryi* and *L. medeoloides* which seem to be very sensitive to winter wet and over watering, and many of my bulbs often end up rotting after one season. However, I think that I have now solved part of this problem, by planting my *L. henryi* in a border which is half covered by a roof edge, which keeps away excessive rain during winter. This clump of *henryi* is now doing very well, one stem reached 180 cm this summer.

I find that *L. henryi* does best when left undisturbed, in half shade so that the flowers do not get too bleached by the strong summer sun. In 2007 I also managed to grow *Lilium medeoloides* successfully for the first time, in a rich, slightly acid soil in half shade. *Lilium regale* often erupts very late, in about early or mid May, but then grows at a very rapid rate, and is often in flower by the mid- end of June. *Lilium lancifolium (tigrinum)*, which is known to flower late, in August and September, flowers early in Switzerland, often towards mid July. I grow the usual variety, as well as *lancifolium* 'Forrestii' (a taller variety with larger, more pointed flowers) and the double variety 'Flore Pleno'. *Lilium leucanthum*, *L. speciosum rubrum* and *L. rosthornii* are late flowering, often not starting to flower before mid August, and continuing to grow into September.

European and Middle Eastern lilies

With the Middle Eastern and European lilies, I have had moderate success. *Lilium bulbiferum* var. *croceum* grows and spreads very well, and so does *Lilium pyrenaicum* to a certain extent. However, both these species have for unknown reasons started declining in recent years, growing much shorter and rotting away.

Likewise, *Lilium martagon* and *L. candidum* tend to rot very easily unless perfect drainage is provided. *Lilium martagon* seems to enjoy warm sunny sites rather than half shady and moist ones, where growth can often be destroyed by what seems to be fungus.

Lilium carnolicum was unfortunately very sensitive to rotting, and even though perfect drainage was provided, my two bulbs rotted after a bit more than one season, not having flowered or produced any strong growth.

The two bulbs of *Lilium monadelphum* that I acquired five years ago characteristically sulked for a season, producing no above ground growth, and then rotted away the following season. *Lilium pomponium*, a very nice rarity from the south of France seems to enjoy growing in full sun in the very well drained acid bed together with the USA lily species which I will talk about later in the article.

Lilium callosum and *L. pseudotigrinum* from Russia do very well. Both seem to enjoy fairly open, sunny sites, with excellent drainage and not too much water. *Lilium pseudotigrinum*, a recently discovered species from Russia, similar to *tigrinum* but with slightly larger and differently shaped flowers, is also a very tolerant lily, standing strong storms, heat and rain.

Lilies from India, Taiwan and Vietnam do well overall. They seem to like the warm summer temperatures, as long as they can get enough water, in order not to dry out. *Lilium formosanum pricei* can be very ephemeral, the bulb only flowering for one or two seasons, but when it does grow, it does so very well, and has no problems growing in a medium sized clay pot in full sun. *Lilium nepalense* likes wandering along with its stolons for a very long time before emerging, often in mid to late May. (I once had to dig up a bulb of *Lilium nepalense* and replant it when I discovered that, after having wandered sideways for about 30 cm it had started to grow downwards, in a large wooden pot. I thought that had it been able to continue growing this way, it would probably never have found its way out!

Lilium primulinum burmanicum seems to be very sensitive to summer dryness, and unless a very cool, half shaded, moist spot is provided, it often dries out. I also tried *Lilium majoense* one year, but with little success. The bulb grew a small 15 cm stem and then rotted the following winter. Since then, I have had moderate success with it. In 2006 I had a *L. majoense* bulb from Chen Yi which

gave one flower, but the bulb unfortunately rotted that winter. I think *L. majoense* needs excellent drainage, and may even have to be covered in winter to keep away excess water.

In 2005, I also tried a newly introduced rarity from Vietnam, *Lilium poilanei*. This lily, which produces a very large fragrant trumpet, that is white within and purple red on the outside, grew very well in a humus rich soil, planted in a sunny site, but with its stem roots shaded by perennials. It produced a large number of offsets.

North American lilies

Finally, I come to the North American and USA species, which include some of my favourite lily species, but also, the ones I have had the most problems in growing. These lilies, for the most part, are so well suited to their original climates, that unless these conditions can be recreated, I find that they tend to dry out, or rot, or simply sulk for many seasons, never producing any growth. This is the case with *Lilium canadense*, which I have now been trying to grow for six years, in both acid and neutral soil, in a sunny and half shaded position, but it never seems to want to produce any above ground growth or roots, and the rhizomatous bulbs often disintegrate and disappear. A *Lilium canadense* that I grew this year from a bulb obtained at the Lily Group bulb auction grew well, however it mysteriously totally died away just a few days after I had sprayed it with a general insecticide against some aphids which were attacking it. Two others are growing in a more shaded part of the garden, where they produce stems, but no flowers. However, I will not give up growing this species, since it is one of my favourites.

I have also been trying to establish one of my favourite lilies, *Lilium superbum*, since 2001. However, when I purchased some magnificent large *Lilium superbum* bulbs at the Lily Group bulb auction in October 2005, grown by Tim Whiteley, I realised that the problem with my past attempts at growing this lily was that the bulbs I had been buying had been far too small and weak to be able to root and establish. They were also much more sensitive to dryness and rot, since they never really had any strong root run. The bulbs from Tim Whiteley did much better, flowering regularly every July. It is a shorter variety of *Lilium superbum*, only reaching about 180 cm tall. To combine this variety with the taller ones might be something to try this autumn? *Lilium pardalinum* and *Lilium volmeri* seem to be two USA species that adapt fairly well to the Swiss climate, growing well, but quickly going dormant when the temperatures become too warm or too dry for their taste. *Lilium pitkinense* grows fairly well, but has not flowered yet. It seems to dislike dry conditions, preferring moist, half shady ones.

Last autumn I finally got my hands on some very good bulbs of *Lilium washingtonianum* and *L. washingtonianum purpurascens*. They were young



A group of asiatic hybrids and two North Hybrids - on the right is 'Eros' growing in the author's parents' garden in Switzerland.

seed raised bulbs, so they have not flowered yet. However, they grew very well in an acid bed in full sun with excellent drainage.

One lily group member from California to whom I showed pictures of the young plants said that those *L. washingtonianum*s were looking very good, so I am hoping that their needs for a dry summer and autumn will be met this year, and they survive the winter and flower next year. As I am writing this, at the end of August 2007, the summer in Switzerland has not been as sunny and warm as usual, and as a consequence of frequent rain, I unfortunately lost one of the *Lilium washingtonianum purpurascens* bulbs, which rotted. However, the two *L. washingtonianum* are still fine, one just about going dormant now. This might be an indication that *L. washingtonianum* is slightly easier to grow than var. *purpurascens*, even though I have read that it is *purpurascens* which is meant to be slightly easier to grow.

In the same border, which is almost entirely reserved for USA lily species, I also grow *Lilium michiganense*, which so far seems to do well in full sun, but



Left, *Lilium callosum* has the widest distribution of any east Asian lily but is rarely seen in cultivation. and **above**, *L. poilanei* is a rare species from Vietnam.

has produced no flowers yet. *Lilium kelleyanum* grew moderately well, since it seemed attacked by a virus, which resulted in deformed growth and flowers. But I am waiting to see if the same happens next year before throwing it away. Some other USA species also grow in the bed, such as *Lilium parvum ballidayi* and *Lilium parryi* from the lily group bulb auction. They seem to grow well, apart from some brown spots on the leaves. This might be a virus, but might have been formed by the inconsistent alternating warm and cold, sunny and rainy weather we had this spring and summer in Switzerland. The *Lilium parryi* bulbs planted in another bed in half shade, and covered by a fern seem to be doing much better.

Lilium grayi did very well in its first year, flowering profusely but not reaching more than 60 cm. However it seems to be a lily which is very difficult to maintain, since it only produced one stem with one flower in its second year.

Lilium kelloggii is a bit tricky. It rots very easily and did not seem to like

growing in half shade, so I have now moved my only surviving bulb to the drier acid bed in full sun, in the hope that it will do better there. With the dryland lily species, I find that incorporating pine needles together with the ericaceous acid soil improves the drainage a lot, and also acidifies the soil a bit further, which some of these lilies like.

I have also tried *Lilium columbianum*, which, for five years, has only produced one small leaf per season. This may be because the bulb I purchased was too young, and simply needs a few years to reach full flowering size.

I think that overall, my climate might be too dry for some of these lilies to be able to thrive. (The *Lilium canadense* grown in Geneva Botanical Gardens also seem to suffer a bit from the very warm and dry summers. It is, after all, a plant which, in the wild, grows by streams and bogs in North America, where summer temperatures are rarely as warm as the Swiss ones. Our record in 2005 was 38°C in August, a summer temperature which is not rare, especially in August, which is considered the warmest month in Switzerland).

Hybrids

Concerning the hybrids, the asiatic hybrid lilies grow profusely, and spread like wildfire in my borders. (Four years ago, I purchased a bulb of *Lilium* 'Citronella', which was a little bit smaller than a golf ball. When I dug it up a few years later, while I was improving the drainage of my border, it had become the size of a clenched fist. *Lilium* 'Orange Triumph', an old asiatic hybrid similar to *Lilium bulbiferum*, needs excellent drainage to do well, flowering in early June with gleaming orange, slightly scented flowers, opening from hairy buds.

The North Hybrid lilies, although becoming rarer to find, do very well overall, with hybrids such as 'Eros', 'Bronwen North', 'Angela North' as well as some unidentified orange and cream North Hybrids flowering profusely in June and July, often producing over 20 flowers per stem.

I also grow oriental hybrids such as 'Stargazer' (one of my favourite lilies) and 'Casablanca' as well as some recent OTs such as 'Faros', 'Conca d'Or' and 'Yellow Stargazer'. However, I find that many of the oriental hybrids start declining after a few years, and can be very sensitive to rotting. In recent years, they have also started flowering much earlier, in late June and July, instead of in August as they used to do. An interesting anecdote about 'Yellow Stargazer' is that after having flowered profusely in June, it all of a sudden started growing a new shoot at the end of August. Hopefully this new stem will flower before the first frosts!

Concerning the trumpet hybrids, these grow very profusely, and make huge bulbs in time. They have also broken the records amongst my lilies in all categories, with one stem of 'Royal Gold' producing 25 flowers, and another stem reaching 206 cm.

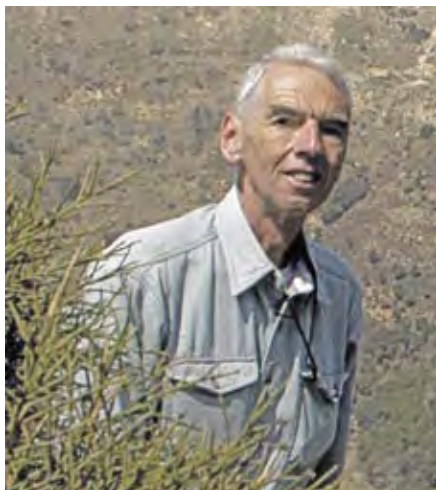
Species hybrids such as *Lilium* x *dalbansonii* and 'Theodor Haber' do very well in full sun in acid and neutral soil, flowering in early June. *Lilium* 'Black Beauty' also grows very well, liking all types of conditions, regularly flowering every year.

Lilium x *dalbansonii* broke the record this June in my lily collections, with three stems bearing over 30 flowers per stem, flowering for nearly a month. A very magnificent lily indeed, grown from bulbs obtained at the Lily Group bulb auction in 2006.

In the summer of 2005, I improved the drainage of my main border, where I grow most of my lilies, dividing it into three main parts, The North American and USA part, the middle eastern part and the Chinese/Japanese part, in which I now grow plant and lily species from all these places. In the autumn of 2005, I acquired several sumptuous lily species, such as *Lilium kelloggii*, *L. grayi*, *L. pitkinense*, *L. kesselringianum* and *L. carniolicum*.

In 2005, I wrote the following as a conclusion to this article: "However, there are still many lilies that I am looking for my collection. I think that some of them are almost unfindable, (*Lilium catesbaei*, *L. polyphyllum*, *L. canadense* var. *editorum*, *L. washingtonianum purpurascens* and *L. kelleyanum*, to state a few). However, I will persist and look for these, after all, I am only 20, and have (I hope) a long life of lily growing in front of me..."

I am now 22, and since this article was written, I have moved to England, to study film and TV production at the University of Westminster for three years. Being a bit more than half of the year in the UK has also meant that I have more easily been able to find new and exciting lilies to bring back to Switzerland, with many specialist nurseries around, and of course, the Lily Group bulb auction, where I get a lot of jewels. This has meant that the list of species that I am looking for is gradually becoming smaller. I now have *Lilium washingtonianum purpurascens* and *L. kelleyanum* which I had on my "unfindables list" in 2005. But this does not mean that I have obtained all the species I am looking for. Some unfindables have remained unfindables, such as *Lilium humboldtii* var. *ocelatum*, *Lilium catesbaei*, *L. canadense* var. *editorum*, *L. polyphyllum* and *L. rhodopeum*. I think that some of these are very rare in cultivation, and the easiest way might be to get hold of wild collected seed from somewhere. Since one of my aims is to grow all the species I want by the time I am 30, that leaves time both for searching and for seedlings to grow to flowering size!



Alisdair Aird

Harris Howland writes a few notes on the recipient of the
RHS Lily Group Lyttel Cup.

I HAVE BEEN GROWING LILIES NOW for nearly 50 years and have met many lily growers from all around the globe, but I have to say that Alisdair Aird is one of the most accomplished growers of species *Lilium* that I have ever had the pleasure to meet. Some of my early recollections of him are in the initial days of 'Lilies from China' (Chen Yi) and Alisdair collecting some weird and wonderful material, not always what he expected. However, he achieved great success with many of these lilies, some of them rare and some of them new species.

Alisdair started growing lily species from bought bulbs in large pots, in a south-facing bed-sitting room when he first moved to London after leaving college, in 1963. The pots lived below a big bay window, growing up into the light as they flowered, and were a huge compensation for living in a city instead of the country.

A few years later he discovered how easy it was to grow lilies from seed. In the early 1970s, sharing an allotment with Helena Wiesner (to whom he is now married), he grew a long row of *Lilium regale*. He was (and still is) a member of the Alpine Garden Society as well as the RHS, and gradually tried one or two other lily species from seed from their distributions.

He joined the Lily Group after seeing the marvellous displays of lilies staged in

the 1970s by the group at the RHS Halls in London, and was inspired by the very wide range of different species shown then. The arrival of the group's seed list quickly became what it is now for him - one of the most eagerly awaited events of the year.

He edited the consumer reports magazine *Which?* in the 1970s, started *Holiday Which?*, and later set up the research and consumer policy side of the UK's National Consumer Council. His 1972 book *The Automotive Nightmare* was the first analysis of the car's impact on society, the environment and climate. He now produces annual guide books including *The Good Pub Guide*, which is the UK's best-selling annual travel/leisure guide.

He and Helena lived in London for a couple of decades, moving house once. In each garden they built a greenhouse in which lily seedlings and pots of some tender species had to do their best alongside an eclectic mix of tomatoes, chillies, melons, cucumbers, orchids, primulas and tender cyclamen species.

He was a founder member of the Cyclamen Society, and served a term as its chairman, during which he initiated an ambitious research programme which has included many botanical field trips to study and record cyclamen species in their natural habitats, and which (in conjunction with the relevant national authorities under CITES, the Convention on International Trade in Endangered Species) has introduced interesting new material into cultivation. He also edited that society's Journal for many years.

He and Helena now live in Sussex, where he grows a wide range of lily species mainly grown from seed, in raised beds in a sheltered environment. He also grows a few in their garden - notably some fine stands of *Lilium pardalinum*, but his repeated attempts to plant out lilies in their small wood are invariably foiled by the marauding deer. They share a house in south-west France with Helena's brother (*L. henryi* tolerates the hot thin soil over chalk quite well there), and a house in the extreme south of Greece with his own sister (an attempt to establish *L. chalcedonicum* there has so far been discouraging, although it grows wild only a few miles away, but *L. candidum* is looking promising). He is an enthusiastic member of the Mediterranean Garden Society, growing an increasing number of plants native to areas with hot dry summers and winter rain, and in 2006 organised a trip to Rhodes for the MGS, with 40 participants from seven countries.

He has always tried to return as much seed as possible to the Lily Group's seed distribution, seeing this as a crucial activity for the Group. In addition to his lily growing accomplishments Alisdair is also a very fine photographer and his enlarged prints of lily species have graced many of the Lily Group's display stands at the RHS London shows. Altogether this makes Alisdair a most worthy recipient of the RHS Lily Group Lyttel Cup.

On the road in search of lilies

*Last summer **Alan Mitchell** travelled to America to see lilies growing in the wild.*

READERS OF A CERTAIN AGE and literary taste will recognise that the “On the Road” part of the title of this article is an allusion to Jack Kerouac’s classic tale of roaming around America. However, at this point let me allay any concerns about what might come next, as the trip I made was, thankfully, short on rebellious behaviour and existential angst, but full of encounters with most of California’s beautiful species lilies and some of their perhaps slightly wayward, but naturally occurring, hybrid offspring.

The metaphorical road, that preceded the journey of over 1500 miles in search of lilies, began when I met Charlie Kroell, at the 2004 RHS Lily Conference, and mentioned the words, *L. henryi* var. *citrinum*. This yellow variety, of the orange type of *L. henryi* has a strong fascination for Charlie, as has the legend that it is a hybrid which was originally discovered in a garden in Melrose, Massachusetts in 1925. Whatever the truth of the matter, i.e. species, variety or hybrid, it was this “mystery”, debated through the exchange of many lengthy e-mails, that enabled Charlie and me to further develop the friendship that began when I uttered those fateful words.

Although lost in the mists of time, which seem to roll ever closer to the present as the years advance, I assume it was during a lull in the *citrinum* debate that Charlie suggested I might enjoy what he called a “lily chase” in California. As he knew about my preference for species lilies, rather than hybrids, he thought the prospect of seeing a number of western American species growing in their natural environments would appeal to me. As the trip would also involve driving through the Canadian Rockies, en route to the NALS Convention in Edmonton, which, for someone who has been hill walking for over 30 years, would be like driving through Nirvana, if that isn’t a sacrilegious thought and/or practice, I e-mailed Charlie to count me in. The other two members of the lily chase foursome were Barbara Small (a native Californian whose local lily-knowledge was essential to the trip’s success) and Kathy Andersen (who had just returned from plant hunting in China). Although many months had to pass, between Charlie’s initial proposal and meeting him, and his wife Marijean, at Detroit Airport, the time was put to good use through his meticulous planning of flights, accommodation and other details. It was only when I witnessed him precision-cutting a breakfast pancake that I realised Charlie could not have organised the essentials of the trip any differently.

Prior to flying to Reno, to meet Barbara and Kathy, I spent some time at Charlie

and Marijean's house, in Troy, Michigan where I was treated with consideration and genuine kindness, rare things in a world where private entitlement seems to be rapidly replacing any finer human impulses. Ever the organiser (and coming from someone who is pretty disorganised that is meant as a compliment) Charlie had already arranged visits to the gardens of some of his friends. Betty Sturley, an artist friend of Charlie's after whom he named a particularly stunning *henryi* hybrid, had a plant of *L. michiganense* in flower, which was a fine introduction to the many American species I was yet to see, appropriately growing in its home State. After visiting Betty's garden, we moved on to the garden of Rimmer de Vries, a young man I took to immediately, but I'm not sure if it was because of personal vanity, as he proffered his copy of the 2005 NALS Yearbook and asked me to inscribe something meaningful on the article I had written about Chris North, or if it was the excellent selection of ales he asked me to sample, as a fellow aficionado of choice beers. Prior to appreciating Rimmer's ales, however, he took us to see the garden of his friend, Jacques Thomson, wherein I had my second encounter with *L. michiganense*, which had flowers of a richer red than Betty Sturley's, an example of variation within a species that became more apparent when considering species like *L. kelloggii* and *L. pardalinum* in their natural, Californian, habitats.

After a brief, but eventful, stay in Michigan, Charlie and I headed west to Reno and the actual start of the lily chase. I should indicate that, prior to the start of my North American sojourn I wasn't sure why he called our proposed search for lilies a "chase", as the plants I grow are all static. However, by the time I had returned to Scotland, after nine flights and 2,500 miles driving, I was much more in-tune with the reason for Charlie's phraseology.

The flight to Reno was uneventful, as was – thank goodness – passing through airport security. After collecting our rental vehicle, a fairly large 4x4 with excellent air conditioning – essential in temperatures that, except for part of a day spent in drenching Scots mist on the Pacific coast, ranged from 30 to 40°C – we were knocking on the door of Barbara Small's house in not much more than the twinkling of an eye. Feisty and focused is how I would describe Barbara, or Barb as she is generally known, hence it wasn't long before we were heading across the Nevada/California State border, by way of Verdi, as in Guiseppe Verdi, (but pronounced to rhyme with pie) to locate our first lily of the trip, *L. chrysalense*. For those readers who do not recognise this American species there is an explanation, i.e. this lily has not yet achieved specific rank, but if Barb has her way it will, as she feels it is different enough from *L. parvum* and *L. pardalinum* not to simply be labelled as a hybrid of those established species. This lily grows in restricted oases beside streams and aspen trees, which are, typically, surrounded by high desert terrain.



Mount Shasta, rising to 14,162ft was the dramatic backdrop to part of the author's summer lily chase.

The following day we set off for Pole Creek to look for *L. parvum*. Unfortunately, all but one of the plants we found were still in bud and the plant that was flowering was fasciated. However, luck was with us, as we headed north to Yreka, when we found a number of *L. parvum* and *L. pardalinum* growing in a roadside ditch. Although somewhat unromantic as a name, "ditch lilies" does accurately describe *L. parvum* and *L. pardalinum* (and others of their ilk) in relation to their inclination to grow and flourish in the boggy habitats man creates through the process of building roads. The "chicken or egg" question is, were the ditch lilies there before the roads were built, or did they colonise these ideal habitats after the roads were built? The next lily we encountered was *L. washingtonianum*. Again the plants were growing beside the road, not in a ditch, but near the top of a slope in very dry, loose soil. This would appear to be the perfect growing environment for this lily, as, in the words of Dr Albert Kellogg (after whom *L. kelloggii* was named), "At no time have I met with a plant of this species in a soil the drainage of which was not perfect and when found on a slope did not face towards some point between east and south." I can't swear to



Above, Alan Mitchell photographing an unusual yellow flowered form of *Lilium kelloggii*, with the photo that he took (*inset*).

the exact orientation of the plants we found, but I can aver that the flowers were of a pure and lustrous white and very sweet of scent. I know it's not impossible to grow this lily in the UK, as it grows in the Branklyn Garden in Perth, which is about 30 minutes drive from where I live in Fife. What is, apparently, impossible is finding an American supplier of bulbs of *L. washingtonianum*, or any of the other more challenging Californian species, e.g. *L. rubescens*, *L. bolanderi* and *L. kelloggii*. Having trawled the Internet on more than one occasion all I have been able to find, among myriad fairly uninspiring hybrids, are the less challenging *L. pardalinum* and *L. superbum*.

After watching a spectacular 4 July fireworks display, outside our Motel in Yreka, we discussed the plan for the morrow, which was to backtrack to Mt Shasta city to look for *L. shastense* and then to take the road to Mt Shasta in the hope of finding more *L. washingtonianum*. In common with most committed lily hunters, we were on the trail of our first lily of the day before we had eaten breakfast. If asked, I would say there are two things I'll remember about the park in Mt Shasta city. One is *L. shastense*, a lily that was growing in a muddy, heavily shaded environment surrounded by thickets of what looked like a giant version of the Common Horsetail and the other is the source of the Sacramento

river whose broad meanders we had crossed and re crossed getting here and whose significant impact on the landscape seemed hard to reconcile with the insignificant stream that emanated from a modest hole in the ground in the corner of this municipal park. After a hearty breakfast at a local Diner, we took the road that leads to Mt Shasta. It wasn't too long before one of us spotted some lilies by the roadside. After parking our vehicle under a tree, some shade being necessary as the temperature was about 40°C, we walked back to where some *L. washingtonianum* var. *purpurascens* were growing through Manzanita plants, their tough protectors against grazing deer. The furnace-like heat and resulting hard and parched soil certainly exemplified dry-land lily conditions. The miracle was that something so fine and, apparently, so delicate could take such punishment. I theorised, to myself, that, below ground, there might still be some residual snow-melt moisture that enabled the bulb to counteract the grilling effect of the sun on the stem and flowers, but I would have needed a pickaxe to reveal the bulb and test my theory and, apart from any ethical considerations, all I had with me was a plastic spoon!

When we arrived at Orleans, having driven north, again, from Mt Shasta, we checked-in to the Orleans Mining Co., a Motel that proved to be as intriguing as its name. Among its other attractions, it had what, with a stretch of the imagination, could be called a museum of mining tools and other dusty artefacts, but I was disappointed to find that there wasn't even a trace of Orleans' most famous denizen – Bigfoot! Bigfoot or the Sasquatch, as well informed readers will know, is America's version of the Abominable Snowman or Yeti and he, she, it ??? was first observed near Orleans in 1958. Sadly, despite driving many miles through the backwoods above Orleans in search of lilies, I, again, found no trace of Bigfoot. However, the temperature was between 30 and 40°C, far too uncomfortable for someone to be wandering about in a gorilla suit I suppose.

Not bumping into Bigfoot was disappointing, but the many lilies we saw, as we looped north from Orleans into the wooded hills of Humboldt County and then south to pick up the road that took us west to Eureka and the Pacific coast, were a glorious compensation. The first and last species we encountered was *L. rubescens*, but while the first plants were, characteristically, upward facing with tepals that fell gracefully downwards, the last plants had tepals that were more rigid which gave the flowers a star shaped appearance. The second species we found was *L. kelloggii*, a happy accident that came about because we missed the turn off to Onion Lake. Another unexpected bonus was to find a yellow form of *L. kelloggii*, albeit with a single insect-damaged flower, which our resident expert Barb had never seen before and which none of the standard lily reference books mention. Back on track we were soon at Onion Lake, which was far more beautiful than its prosaic name suggests, and investigating some plants of *L. pardalinum*, *L. wigginsii* and their hybrid

progeny. Although there was no debate about the identity of the *L. pardalinum* plants we found, or that some of the plants growing nearby were hybrids, Barb was not convinced that the pale orange lilies we also found were *L. wigginsii*, as she felt the flower of this lily should be yellow. However, the *L. wigginsii* I grow in my garden and photographs of this lily I have seen in reference books are almost identical in colour to the lilies growing beside Onion Lake. Unfortunately, I'm not yet in a position to compare my own naturally occurring hybrids, between my *L. pardalinum* and *L. wigginsii*, with the photographs I took of the Onion Lake hybrids, but this should be possible in a year or two when it will be interesting to see if the flower colours relate. As two parents are required to produce hybrids and Barb wasn't convinced about the non-yellow *L. wigginsii*, she postulated that *L. kelloggii* might be the mystery paramour of *L. pardalinum*, but as all of the Onion Lake lilies were growing in a water meadow and *L. kelloggii* is a dry land lily I had to beg to differ with that suggestion. The next lily we encountered, after leaving the tranquil shores of Onion Lake, was *L. bolanderi*. This is a much sought after, dry land, lily that has very pretty outward facing campanulate flowers, which Derek Fox has described as vinous or brick red in colour. The glaucous sheen of the stem, leaves and flower buds further enhance this lovely lily.

By the time we reached Eureka, on the Pacific coast, the hot sun had been replaced with a chilly low-lying wet mist that reminded me of Scotland. When we headed south to Table Bluff, the next day, the pleasure of seeing about a dozen flowering plants of *L. occidentale* was tempered by the dreich (damp and depressing) morning. I have always thought the Scots have the best words to describe unpleasant weather, dreich being one of the more evocative – I wonder why that is? *L. occidentale*, so named because it is the most westerly American species lily, is much prettier than its relative *L. pardalinum*. On the outside of the flower the tepals are recurved, narrowly delicate and deep crimson, while the inside of the flower contrasts the deep crimson with a yellowish centre decorated with maroon spotting. This is a very rare lily, which had some protection, from wire netting, but it is a moot point as to how effective this will be in denying the appetites of the deer we saw scampering off, as we approached the breach in the fence around the sanctuary perimeter. Fortunately, local conservation efforts are in place, at a plant nursery nearby in Kneeland, so the future for *L. occidentale* may be more hopeful than it at first appears. Apparently, this lily is not difficult to grow in the UK as Patrick Syngé, in his book *Lilies*, refers to Dee Simmons and Oliver Wyatt as testifying. However, that was many years ago, so I think the opportunity to grow this lily currently could be far less likely. After we had visited the nursery at Kneeland we headed west until we found a number of plants of *L. kelloggii* flowering by the roadside. Although identified in reference books as a dry land lily, these plants were growing in a lushly



North American Pacific Coast lily species:
below left, *Lilium bolanderi*;
left, *L. washingtonianum*;
above left, the star-shaped flowers of *L. rubescens* and
above, *L. kelloggii* (in colour similar to *L. wardii*);
above right, a pink-flowered *L. parvum*;
above far right, *L. occidentale*, a very rare lily growing within earshot of the Pacific Ocean, and
right, a spectacular group of *L. pardalinum*.

Below, Kathy, Charlie and Barb at the Orleans Mining Co Motel, in Bigfoot country.





forested area that was heavily carpeted with moss, which was obviously subject to regular rainfall. When compared with the rock-hard soil conditions we had found *L. kelloggii* growing in near Onion Lake, this suggests a lily that is more tolerant of the vicissitudes of rainfall (more or less) than the reference books indicate. The other interesting aspect about *L. kelloggii* was the variation in flower colour, from very pale to a deep rose pink (similar in colour to *L. wardii*). When the yellow variant (mentioned earlier) is added to this range, it's a wonder the "splitters" have accepted that these variations are all expressions of the one species. By the time we drove back to the coast and headed north past Trinidad (a pleasant, vaguely neo-hippy town) the Scottish weather had become more appropriately Californian, i.e. the sun was shining, and we encountered our last roadside lily, *L. columbianum*. As time was pressing, we had a limited opportunity to appreciate this pretty, slightly recurved orange lily before we had to head south to Sacramento. Up with the lark (or its American equivalent), the last day of the lily chase found us heading north-east to our starting point, Reno. En-route we visited a graveyard in a place called Georgetown in the hope of seeing *L. humboldtii* in flower, but unfortunately the flowers had past. But I did think what a splendid lily to have growing on your grave – none better perhaps. Our luck seemed to be leaving us when we thought we had missed all of the *L. parvum* in flower in a ditch area that had once been a guaranteed source for this species. However, we did find one stem with a few flowers of a lilac pink colour, which was immeasurably better than nothing. As we didn't have sufficient time to search for plants of *L. parvum* var. *ballidayi*, Barb decided we should re-visit the stands of *L. pardalinum* we had admired on the first full day of the lily chase. It would seem that she must have had a premonition of something special in making this suggestion, because among the, probably, hundreds of orange flowered plants growing on both sides of the road there were a few (five or six) plants that were sporting yellow flowers. The question is why? Another question is how do the yellow flowered lilies maintain their colour-integrity when this must surely be under threat through cross-hybridisation from the army of their orange relatives that surround them? Unfortunately, I neglected to suggest to Barb that she should, at a later date, collect seed from the yellow flowered *L. pardalinum* plants, as it would be interesting to discover whether the seedlings produced yellow flowers, exclusively, or some yellow and some orange as does *L. henryi* var. *citrinum*. Discussing this interesting find kept us fully occupied until we reached Reno and the end of our six-day, 1500 plus mile lily chase, during which we found ten species and some interesting hybrids in perfect flowering condition.

In retrospect, and as a seasoned (or old if you prefer) hill-walker, i.e. someone who is used to parking his car, walking to his objective, climbing it and then walking back to his car, I found the *modus operandi* of most of the lily-chase

somewhat decadent, in that we parked beside or nearby lilies and with the minimum of physical effort observed them, photographed them and then drove on to the next location. Although it was very convenient that most of the lilies we found were growing by the roadside, I couldn't help but wonder at their possible incidence and distribution away from the roadside. Starting from a group of roadside lilies, it would have been interesting to have organised a posse of hill-walking lily chasers and had them fan out over a few kilometres with the objective of recording the location of any lilies they found, to be discussed when the posse met at an agreed point on the map. This information could then have been transcribed into an excellent and informative article for NALS members with an interest in indigenous species lilies. Later, when I put this suggestion to David Sims at the NALS Convention, he said he thought it should be done as both the activity and the results could be very interesting.

Another lily-related topic I discussed with David and Charlie was the concept of maintaining national collections of plants. David had previously informed me that he was an admirer of the concept, so I questioned him as to why there is no national collection of American species lilies, as this could raise the profile of these beautiful and diverse plants and, concomitantly, the desirability of growing, the two dozen or so, indigenous lilies. I also asked Charlie for his views on this matter. Their answers seemed to highlight a difference in gardening tradition between the UK and the USA, where the former country seems to have favoured the concept of national collections more than the latter. Both David and Charlie also pointed to the preference for hybrids among American lily growers, as these are easier to deal with and more adaptable, to the climatic variations across the states, than are indigenous species. However, I was left wondering if, with interest and motivation, it would really be beyond the bounds of possibility to locate a garden(s), in a more or less temperate state(s), that could be landscaped into environments to approximate to the requirements for dry and wetland lilies? I have to admit to a selfish motive, in promoting the development of a national collection of this nature, as the interest I hope it would generate might lead US lily nurseries to stock all of the indigenous species – not just *L. pardalinum* and *L. superbum* – whereby I could add to the 11 American species I grow currently.

Time marches on inexorably and it is now almost four months since I said goodbye to Charlie, Barb, Kathy and David at the end of the NALS Convention in Edmonton. Although, as indicated in the second paragraph of this article, I had met Charlie at the RHS Lily Conference in 2004, I had not met Barb or Kathy before we arrived at Barb's house in Reno. Yet, we all got on well with each other, so as the American's say "how come"? I'm not sure what the answer is, but perhaps it's a tribute to our shared interest in the lovely quarry of our chase – the lily. Or, perhaps lilies just make nicer people of us all.



Erythronium

*In April 2007 the Lily Group had an erythronium week-end, visiting both Greencombe in Somerset and Knightsbayaes Court in Devon. Here, **Brian Mathew** records some random notes on a fascinating genus.*

THE RHS ACCOLADE OF AGM (Award of Garden Merit) is a useful contribution towards the assessment of a plant's value as a 'good garden plant'. Of course there are drawbacks as with any such scheme, the main one being the variability of local conditions. While an AGM plant should be known to thrive in most regions of the country there may well be places where it will languish due to adverse climatic or soil conditions. A few years ago there was a trial of *Erythronium* at Wisley, a worthy attempt to assess which were the outstanding ones from a garden point of view. Taking only aesthetics into account one would probably state that all species are beautiful, although one might hold back in the case of the very rare but minute *E. propullans* or the prolifically increasing but shy-flowering *E. americanum* (nice leaves, though!). Others, notably the higher altitude western North American species, are tricky to cultivate in many parts of



Left, *Erythronium multiscapoideum* forms large colonies by producing stolons, here in Magalia, Butte Co., California and has a ‘many-scaped’ appearance (*inset*).

Above left, *E. oregonum* is slow to increase vegetatively but is probably the finest of the white-flowered species, here in Douglas Co., Oregon; **above right**, *E. helenae* – the large yellow zone in the centre of the flowers, the yellow anthers and slender filaments help to distinguish this from other white-flowered species.

the UK, requiring the generally cooler conditions to be found in the north. These two factors – aesthetics and ease of cultivation – are important in the overall assessment for an AGM. So, even before the trial it was predictable which ones might be eligible.

Western North-American species

One of course stands out and that is the clone of *E. californicum* known as ‘White Beauty’. This is undoubtedly beautiful, grows with enthusiasm given slight shade and a deep, humus-enriched soil and, very importantly, increases vegetatively at a reasonable pace by producing offsets. It is this last characteristic that perhaps calls into question its attribution to *E. californicum* as plants grown from wild collected seeds of this species do not appear to have the same useful character. However, in all other respects it seems to be well within the range of morphological variation of this Californian species. It was Carl Purdy who gave one of his selections the name but whether the clone widely cultivated today is the same as his original is hard to say. Coloured illustrations from his catalogues of the early twentieth

century suggest otherwise as his 'White Beauty' is shown with a zone of purple markings in the centre of the flower whereas today's has orange-brown markings; this discrepancy could however be due to the degree of accuracy of the original artwork and/or the quality of the colour printing in the catalogue.

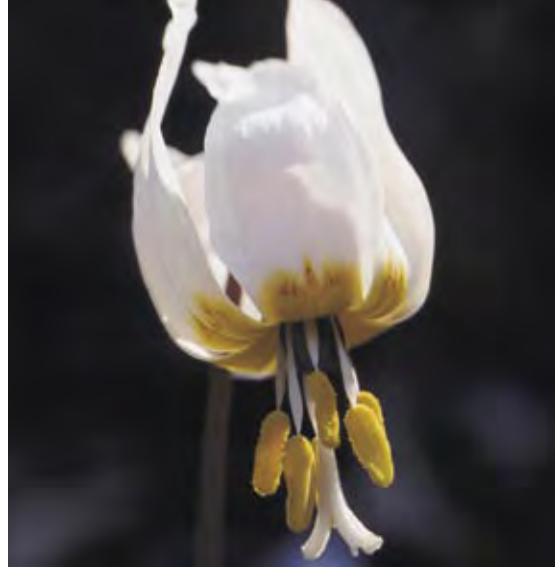
The other western North American species that produce offsets are *E. tuolumnense* and *E. multiscapoideum*, and it appears that the relative newcomer, *E. taylori*, might also behave in the same way. The yellow-flowered *E. tuolumnense* is a superb garden plant, rapidly forming clumps and with several bright yellow flowers in a raceme. It is little surprise that hybrids between it and 'White Beauty' ('Pagoda' is the most widespread in cultivation) are even more prolific with offsets, although lacking some of the grace of both parents. The species is quite restricted in the wild so is unsurprisingly not strikingly variable but there are a few worthy of comment. Some plants of *E. tuolumnense* have noticeably undulate leaf margins, others slightly glaucous grey leaves instead of the usual clear, bright green. 'Spindlestone Surprise' is excellent, although to try to define in words exactly what it is that identifies the clone is difficult; the flower colour seems a rather clearer, brighter yellow and it is possibly flowers more freely. The exciting discovery *E. taylori*, described in 1985, also appears to increase fairly well and consequently looks as if it might qualify as a 'good garden plant'. Although not unlike *E. tuolumnense* in general appearance the flowers are white with large yellow centres, so large that one might equally refer to them as yellow with white tips to the tepals.

The third of these 'offset-producers', *E. multiscapoideum*, has a choice of epithet I have always admired. It was chosen by the eminent nineteenth century American botanist Albert Kellogg and is exquisitely precise in its meaning; it distinguishes between 'multi-flowered' (there are several suitable epithets for this such as *multiflorum*, *pluriflorum*, *polyanthum*, etc.) a condition where there would be several flowers borne in a raceme on a common stem or scape (e.g. in some *Erythronium*, *Fritillaria*, *Lilium*) as opposed to 'many-scaped'. In *E. multiscapoideum* the individual flower stalks (pedicels) are long and appear to arise at or below ground level thus giving the impression that each plant has more than one scape. This may not be apparent in weak or young plants which tend to have only one flower anyway. Although it appears that on publication the epithet was spelled *multiscapideum* (it was first described in 1855 in the genus *Fritillaria*) I wonder if that was just a 'typo' in the original manuscript for it doesn't seem to mean anything in that form whereas the '-oideum' suffix in *multiscapoideum* indicates 'like' or 'as if' many-scaped. All that aside, this is an attractive white-flowered species which produces stolons rather than offsets attached to the parent bulb so is more patch – than clump-forming. The variant from the Pulga Bridge area of Butte Co., California, loosely known as "Cliftonii"

or Cliftonii Group in gardening circles, is horticulturally distinct in that it flowers noticeably earlier, in fact one of the earliest of all erythroniums, and in my experience does not have the same propensity to produce stolons.

The unique pink *E. revolutum* is perhaps the most prolific species in Britain, especially in the higher rainfall western side of the country. One can see large drifts in many gardens ranging from the south-west (for example Knightshayes) all the way up to north-western Scotland at Inverewe. As a wild plant it is also widespread in a north-south direction at fairly low altitudes from Vancouver Island to California, and it is very variable. The species is almost entirely seed propagated so named variants are not clonal although some breed true enough and have been given cultivar status. So, we have dark pink ones named 'Johnsonii' (this was originally described as a species) and other shades such as 'Knightshayes Pink', 'Pink Beauty', 'Rose Beauty', etc. Species such as this create a dilemma for those assessing the merits of a plant for the AGM. Should the award be given to the entire species encompassing all its variations, even if some might be less pleasing than others, or should only 'the better' variants be acknowledged? There is no real answer but the matter can usually be resolved by asking oneself: 'would I throw out any form of *E. revolutum* on the grounds that it was inferior?' In this case I suspect that the answer from most people would be a resounding 'no way'! This question does not arise in the case of *E. hendersonii*, another western American species which is more restricted in distribution in southern Oregon and northern California. It varies only a little in the depth of pale lavender-violet of its flowers which have a distinct dark violet eye in the centre, a unique colour combination in the genus. As a result of this comparative uniformity I am unaware of any named cultivars. As with *E. revolutum* there is little tendency for the bulbs to produce offsets, so seeds are the only practical method of propagation.

All the species mentioned so far are from western North America and, quite frankly, that is where the most striking species occur. Of the remaining species from that region one could mention a few other very desirable ones which are easy to cultivate, notably *E. oregonum*. Although superficially similar to *E. californicum* (mottled leaves and white flowers, usually with a zone of dark markings in the centre) the two are distinct and a check on the width of the stamen filaments will clarify any uncertainty: slender throughout their length in *E. californicum* but wide and flattened at the base, tapering to the apex in *E. oregonum*. For many years there has been in cultivation in Britain a variant known as "Sulphur form", a pleasing variation with pale sulphur-green flowers. Unfortunately the stock came without an indication of provenance so I was intrigued to find it also in a garden in Oregon and, on enquiring, was told that it was the form from Kelley Butte. Only detailed field studies will shed further light as to whether any botanical



Above left, *Erythronium umbilicatum* flowers more freely in cultivation than its relative *E. americanum*. **Above right**, *E. caucasicum* is a distinctive plant from Caucasia and Iran. **Below left**, *E. tuolumnense* has a rapid rate of increase quickly forming clumps, here at Italian Bar, Columbia, California. **Below right**, *E. hendersonii* has unique flower colouring here in Jackson Co., Oregon.





Above, *Erythronium propullans*. The flowers of this rare species from Minnesota are usually less than 1cm long. **Above right**, a leaf of *E. revolutum* showing the mottled pattern confined to the area between the main veins. **Right**, a leaf of *E. dens-canis* showing the random pattern of mottling, cutting across veins.

recognition is justified but it is certainly distinct as a horticultural subject. Another Californian species is among those I rate highly: *E. helena*. Again it is not unlike *E. californicum* with white flowers and mottled leaves but here the flowers have a large yellow zone in the centre and the stamens (anthers) are yellow (white in *E. californicum*). This is named after Mount St Helena, not Washington State's Mount St Helens which blew its top so spectacularly in 1980.

Eurasian and eastern North-American species

The Eurasian species are, of course, delightful garden plants although less spectacular than the western American ones. But of course *E. dens-canis* does have an AGM, awarded to the species as a whole. I find that the bulbs of the named commercial clones tend to split up and form non-flowering clumps so it is necessary to try to counteract this by digging them up frequently and feeding with a potash-rich (e.g. rose) fertilizer. Plants from wild stocks or seeds tend to flower much more freely but the rate of increase is slower. To collect seeds one has to move fairly quickly for, as with *Galanthus*, *Sternbergia* and *Cyclamen*, the seed pods touch the ground and ants will soon remove the contents, attracted by a fleshy appendage or (in the case of *Cyclamen*) a sugary coat. Interestingly the Eurasian and eastern North American species of *Erythronium* behave in this way but the western ones all have upright capsules whose seeds are distributed

when there is disturbance by wind or maybe passing or grazing animals. There is a detailed article on the subject of ants and seed dispersal by Art Guppy in a recent Bulletin of the North American Rock Garden Society (Vol. 65, 3: 2007). The Eurasian and eastern North American species have another feature in common and that is the way in which the leaves are mottled. In the former group the blotching is in a rather random pattern, often cutting across the main veins in the leaf, whereas in the case of those western American species which do have mottled leaves the darker or lighter stains are in the spaces between veins. Returning to *E. dens-canis*, one of its great attributes is its variability in flower colour – hence the reason for the several named clones – from white through shades of pink to deep purple or violet; some populations are fairly uniform, others very mixed. The late Kees Sahin has remarked (personal communication) particularly on the extreme variation in Romania. The Caucasian/north Iranian *E. caucasicum* is very similar in morphology but has some distinguishing characteristics; it is usually the first erythronium to flower and normally has creamy-coloured flowers with a yellow centre. Perhaps there is a case for dismissing it as a geographical race of *E. dens-canis* but there is actually little to be gained in sinking it. This is easily cultivated but I cannot say the same for *E. sibiricum* which does not take to the climate of south-eastern England; I haven't tried keeping it in the 'fridge for the winter, often a useful ploy for growing high altitude or cold climate bulbs. Although again, this is clearly allied to *E. dens-canis* it has some distinguishing features, especially of the stamens and stigma. The far eastern *E. japonicum* has attractive dark jagged markings in the centre of the otherwise purplish flower, and the stamen filaments are different, so it too is distinctive among the Eurasians; it is somewhat easier to grow than its Siberian relative although I have only ever achieved small clumps and have not seen impressive plantings of it elsewhere.

The eastern American species should not be lightly dismissed for they do have what is often referred to as 'quiet charm' and the leaf mottling is particularly attractive. In Britain we find that the light intensity is often too poor early in the year to encourage the flowers to open properly, certainly in the case of *E. americanum*, *E. albidum* and *E. mesochoreum*. Choosing a spot under deciduous trees where they will receive maximum sunlight is the best bet – or place a cloche over them at the appropriate moment. Being stoloniferous, propagation is not a problem with these and one can get quite a sizeable colony in a short space of time. My own favourite of these is *E. umbilicatum* which although very similar in overall appearance to *E. americanum* does, I find, flower more freely and is less stoloniferous. I await the flowering of *E. rostratum* (grown from seed) with interest as it is very rare in cultivation in the UK. The great rarity, as a wild plant, is *E. propullans* and for this reason I will strive to maintain and distribute it: but of this I am sure, it will never receive an AGM!

Trumpet lilies

Walter Erhardt writes about the history of this group of lilies.

THE TRUMPET LILIES ARE, due to their high bud count, good garden plants. Provided you have a light soil – they are robust and fool proof.

The description for lily hybrids from division VI is misleading, as they are not all funnel or trumpet shaped. Pod and turban shaped blooms are also common, depending on the ancestry of the particular parent species.

The development of the trumpet lily began by accident. In 1903, the renowned English plant-hunter E. H. Wilson found *Lilium regale*, the regal lily, and *L. sargentiae* in the Chinese province of Sichuan. It was not until 1910 that sufficient quantities of these bulbs came into Europe and the USA to allow propagation of the species to begin.

At the Farquhar nursery in Massachusetts both species stood so closely side by side that cross pollination occurred and a natural hybrid of both *Lilium regale* and *L. sargentiae* as parents originated in 1916. It was named *L. x imperiale* and its appearance was deemed to be in between both parents. Later this hybrid was often repeated, for example by Isabella Preston from Ontario. She called her most successful seedling ‘George C. Creelman’, and later this same cultivar was frequently used by continental breeders in their hybridisation programmes.

In 1913, Professor F. Scheubel was carrying out some experimental hybridisation crossing *Lilium regale* and *L. sulphureum*. Using *L. sulphureum* as the mother parent he obtained seedlings similar to *L. regale*, but blooming two weeks later and having a greenish throat. The stock was sent to England and was sold by businesses as *L. x sulphurgale*. Professor J. W. Crow, also from Ontario, started hybridising *L. x sulphurgale* and ‘George C. Creelman’; the Crow hybrids thus obtained were then sold under the name *L. x gloriosium*. These hybrids had a greenish throat and their white was more ivory coloured. As America began to crossbreed these hybrids with *L. x imperiale*, the outcome was a plant 150 to 270 cm tall, white, with a dark chocolate coloured exterior.

The actual breakthrough came in 1925, when E. Debras in New Orleans was experimenting to see if he could obtain a hybrid between *Lilium sargentiae* and *L. henryi*. Two lilies could not have characteristics more opposed: the first having a white funnel-shaped flower, the other being an orange turk’s-cap lily. This hybrid was named after the Latin name for the city of Orleans. *Lilium x aurelianense* or aurelian hybrid and it bloomed for the first time in 1928. Coincidentally L. Fritsch in Rastatt in Germany, developed exactly the same hybrid in 1932, never having heard of aurelian hybrids before.

By backcrossing with its parent hybrids and continuing to add other funnel



Above, *Lilium* 'Schokolade' the best red-brown trumpet that Heinz Boehm bred.
Below, *L.* 'Henryjka' was bred by Bretislav Miculka in the Czech Republic, and can reach 1.30m in height.





Two beautiful trumpet hybrids.
Above, 'Jamaika' will grow to about 1.20m and
Below, 'Fetis' is another of Miculka's hybrids that grows to just under a metre.



shaped hybrids, a variety of different aurelian hybrids was developed. These breeds are rarely affected by disease. At most they are sensitive to late frosts, which can impair their flowering. Carl Feldmaier, the German lily breeder, describes the aurelian lilies as extremely fool proof.

Pink trumpets with trumpet shaped blooms developed following specific selection processes. L. N. Freimann from Washington noticed pink petals on one of his seedlings. He crossbred the hybrid over several generations, selecting the best seedlings for breeding, until he finally obtained lilies with fuchsia pink petals. The disadvantage was that the third generation was greatly weakened by the interbreeding, so he was forced to backcross it with *Lilium regale* until he was finally able to sell the “pink trumpets”.

This programme took 15 years. The “king lilies” were developed in a similar way. In 1941 Freimann sowed some *Lilium x gloriosum* seed; amongst the seedlings he found one that was cream-coloured. After five years of back-crossing and much selection the “golden regales” were introduced in 1946. When one is talking of yellow and golden trumpet lilies, one breeder must not be forgotten – Jan de Graaff from the Oregon Bulb Farms. In 1934 the Dutchman emigrated to America, he bought land and planted narcissus and iris bulbs. At the same time, lilies fascinated him, so he collected whatever he could get and bred selectively. From de Graaff’s selection came the white hybrids that are divided into two groups: the “mountain-hybrid” that have a touch of green and the classic white “Olympic-hybrid”.

Trumpet lilies are usually divided in four main groups: the ones with Chinese trumpet flowers (6a), the ones with cup or pod shaped flowers (6b), the ones with hanging flowers (6c), and, finally, the ones with star shaped flowers (6d).

Trumpet lilies are easily grown in a humus-rich sandy soil, with their heads in the sun and feet in the shade. Due to their high bud count, trumpet lilies are more suited to the garden than to the cut flower trade, which has not made wide use of trumpet lilies because of the problems involved when transporting the plants (buds easily damaged...etc). Trumpet lilies, as previously mentioned, can be very free flowering. One variety (‘Heidelberg’) produced 66 flowers! Another hybrid, ‘Glockenturm’, was photographed with 30 flowers.

Trumpet lilies are rarely found in florists. For the garden however a wide range of different new hybrids are now available, making it worthwhile for everyone to try for themselves.

The Editor would like to thank Pontus Wallstén who assisted with the translation of this article which was kindly undertaken by Gesa Hille.



Commercial lily production in tunnels to protect the crop from chilling winds and field grown bulbs in the foreground in Western Australia.

A liliu delight – Downunder

Charles and Lee Reynolds write about their commercial lily farm, Florescence Quality Cut Flowers, in Albany, Western Australia

FLORESCENCE QUALITY CUT FLOWERS was originally established in Albany 2001, undergoing considerable expansion before winding down in late 2003, when we bought it. Since then we have developed it into an effective small business producing an average of 1000 bunches of lilies per week.

Both Lee and I have gone through a very steep learning curve as our life before the farm was as officers in the Australian Army. I also have to be honest and say that we only looked seriously at this business because we wanted a true ‘sea change’ in a seaside city that provided good educational opportunities for our two girls (we were originally on the other side of the country in Canberra). We did not consider the business because we had any background or knowledge in lily farming!

The farm itself is situated 10 minutes from Albany. It consists of 4.2 ha of land, with plenty of water (something unusual for Australia at the moment) and an infrastructure capable of operating a moderate sized floriculture business. The primary product produced is lilies, although zantedeschias (calla lilies) are also grown and we have planted some 350 cherry trees.

Table 1: Albany Long-term Averages

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Max (°C)	22.8	22.9	22.2	20.8	18.5	16.5	15.7	16.2	17.2	18.4	20.3	21.9	19.5
Mean Min (°C)	15.0	15.3	14.6	12.7	10.6	9.0	8.1	8.3	9.2	10.3	12.3	13.9	11.6
Mean Rain (mm)	23.6	23.1	38.3	68.8	119.2	132.7	143.9	127.1	101.5	80.0	43.5	29.5	931.0
Mean Rain (days)	7.7	7.5	10.9	14.0	18.3	20.2	21.5	21.1	18.4	16.5	12.3	9.4	177.6

The Western Australia lily market

Lilies in Western Australia are mostly all sold through a few wholesalers in Perth and from there onto florists, although there are sales through supermarket chains and an ever growing number of farmers markets selling direct to the public (we are involved in two that give a wonderful opportunity to engage with our local community).

By world standards, Western Australia is a relatively small market. Estimates indicate the market takes around 4,000 bunches a week of asiatic and LA hybrid lilies, and a smaller number of oriental lilies (about 3,000 bunches) and longiflorums (perhaps less than 300 per week). The asiatic and LA hybrid lilies are usually put into mixed bunches by florists while the orientals and longiflorums are generally used for weddings or displays in restaurants, hotels, etc. The demand for asiatic and LA hybrid lilies increases when other bright flowers such as gerberas are out of season over winter, while oriental and longiflorums demand is higher during the wedding season; spring through to early autumn. Demand for all flowers increases for special occasions such as Mothers Day, Valentines Day and before Christmas.

Lilies have a reasonable profit margin in Western Australia (much higher than those grown in the Eastern States) and are relatively easy to grow in season – especially asiatic and the LA hybrids lilies. The challenge is growing them all year, especially orientals in winter.

Growing lilies in South Western Australia

Perhaps one of the greatest issues we have had as we built up our own skills and re-established and developed effective business and horticultural processes has been finding relevant advice. Being the only commercial lily farm outside the Perth region, we have often felt like pioneers, finding out on many occasions

Table 2: Perth Long-term Averages

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Max (°C)	30.6	31.2	29.3	25.9	22.4	19.2	18.3	18.6	20.0	22.7	26.2	28.7	24.4
Mean Min (°C)	17.7	17.9	16.5	13.8	10.9	8.8	7.8	8.0	9.4	11.0	14.0	16.2	12.7
Mean Rain (mm)	18.1	5.7	23.5	28.1	98.5	148.4	154.6	135.9	89.6	45.6	21.0	5.2	779.3
Mean Rain (days)	2.0	2.1	4.8	6.5	12.4	16.7	17.7	16.2	14.9	9.6	5.9	3.8	113.6

Based on data from the Australian Bureau of Meteorology

how to do things through the school of ‘hard knocks’. Growing lilies in South Western Australia has provided us with a number of specific challenges, very different to any other place in the world. To start with, the land is very sandy with a low nature soil PH of 4.5. Being sand it is quick to leach and growing conditions can be difficult with strong cold winds from the Antarctic during the August and September period. On the other hand, our summers are much milder than those experienced in Perth, often described as Mediterranean (see tables 1 & 2) and we live and work in one of the most beautiful parts of Australia, the value of which can never be underestimated.

The previous owners, although putting in some sound infrastructure, grew mainly during the natural season and even then, not in huge numbers. Even now we cannot be viewed as a big grower, cropping just over 300,000 lilies a year. To meet year round challenge we are reworking our 4000 m² of plastic tunnels into a hot house. The wonder of growing here is that by removing the wind chill and retaining warmth during the day, there is no need to have any other heating system other than that provided to us by Mother Nature.

To resolve the low soil pH (a good level should be around 6), we have used lime and regularly add peat and well-composted materials. This has helped increase the pH around 5.8 and our asiatic and LA hybrids do very well. Our orientals are not quite as tolerant of even small drops in pH and we now plant these in plastic crates with potting mix (although this is expensive and reduces our profit margin by around 10% per bunch).

As we refuse to use chemicals to fumigate the soil (this is still allowed in Australia), we grow field peas in rows that lie fallow. This helps clean the soil, give it a nitrogen boost and gives the soil bulk when rotary hoed into the row.



Above, the OT Hybrid, 'Conca d'Or', below, two oriental hybrids 'Rosy Dawn' (right), and 'La Mancha' (left).

Left, 'Ceb Dazzle' in rows and above left, crate-planted oriental lilies.

Opposite page are asiatic and LA hybrids in one of the large production tunnels at Florescence Quality Cut Flowers in Albany, Western Australia.





We also use a combination of cow manure and trace elements to develop the soil before planting. This is added to during the growing period with drip fed PK (soon after bud development). All our planting is done by hand, as is the picking.

To reduce the problem of leaching, our watering is done in a number of short bursts throughout the day. A great advantage of lilies is that they are surface feeders; collecting most of their nutrients from their stem roots, their base roots providing stability and water uptake. This 'burst' water technique is an effective, efficient and environmentally responsible way of watering (reducing the chance of fertilisers leaching into the ground water). We also use a soil/water conditioner that allows the water from the dripper tapes to spread evenly over the whole row, rather than going straight down.

Our bulbs for most of the year come from Holland. These are stored in a freezer at -1.5° Celsius until required. However, with a shelf life of around eight months after arriving in Australia, orientals need to be sourced from New Zealand or Chile for the October to January period and we grow many of the asiatic and LA hybrids for this period ourselves.

Another issue that faces us is that we have much higher summer light than most other places in Australia. This means that, although our average temperature is perfect for growing, stems are often short with very large flowers. As the commercial market pays on stem length (60/70cm is the optimum), this poses a problem. To overcome this we whitewash the roof of each tunnel and this year will also reduce the light further by hanging shade cloth inside.

Lily varieties

We have tried many varieties: some have been very successful and others not so good. Table 3 shows many of the varieties and we have made comments on each as to how successful we have been with them.

Table 3: *Lilium Varieties*

ASIATIC AND LA HYBRIDS

'Ceb Dazzle' - LA Hybrid (yellow)	P	Always good
'Gironde' - Asiatic (yellow)	P	
'Golden Tycoon' - LA Hybrid (yellow)	P	
'Pavia' - LA Hybrid (yellow)	P	
'Madras' - Asiatic (yellow)	?	Trial
'Pisa' - Asiatic (yellow)	O	
'Tresor' - Asiatic (orange)	P	
'Gibraltar' syn. 'Elite' - Asiatic (orange)	O	
'Heraklion' - Asiatic (orange)	O	
'Salmon Classic' LA Hybrid (apricot)	O/P	Quick grower, small no. of buds
'Top Gun' - LA Hybrid (light pink)	O	Great colour
'Samur' - LA Hybrid (strong pink on light pink ground)*	P	
'Brindisi' - LA Hybrid (purplish red)*	O/P	small no. of buds
'Turandot' - LA Hybrid (intense pink)*	O	Very brittle
'Royal Sunset' - LA Hybrid (mixed orange-red)	P	
'Loreto' - Asiatic (strong orange)*	O	Too short but great 2? colour
'Latvia' - Asiatic (brilliant yellow)*	O	Too short
'Centerfold' - Asiatic (yellowish white)	P	
'Prunotto' - Asiatic (red-orange)	P	
'Ercolano' - LA Hybrid (white)	P	
'Navona' - Asiatic (white)	O	
'Aspin', trade designation SNOWSTORM - Asiatic (white)	P	
'Donatello' - LA Hybrid (white)	P	
'Courier' - LA Hybrid (brilliant greenish yellow)*	P	
'Nova Scotia' - LA Hybrid (yellowish white)	?	Trial
'Fangio' - LA Hybrid 70/60cm(red)	P	
'Red Alert' - LA Hybrid 70/60cm(red)	O/P	On the lookout for better red
'Red Classic' - LA Hybrid 70/60cm(red)	O/P	
'Freya' - LA Hybrid (brilliant yellow)	?	Trial
'Orriolo' - LA Hybrid (vivid yellow)	?	Trial

LONGIFLORUM

'Zanlophator', trade designation TRIUMPHATOR - LO Hybrid (white/strong pink)*	P	
'White Heaven' Longiflorum (white)	P	

* denotes that the colour stated here is that which was given when the cultivar was registered; in our experience, under our light conditions the colours are somewhat paler.

Table 3: *Lilium Varieties continued*

ORIENTAL		
'Simplon' - (white)	P	
'Siberia' - (white)	P	
'Vespucci' - (white)	P	
'Rialto' - (white)	P	
'Expression' - (white)	O/P	unpredictable colour slow grower
'Arena' - (white)	O/P	
'Rosy Dawn' - (pink/white)	O/P	
'Aktiva' - (strong purplish pink)*	?	Trial
'Sorbornne' - (rich pink)*	P	
'Dordogne' - (pink? purplish red)*	P	
'Trento' - (pink? purplish red)*	?	Trial
'Dynamite' - (pink? red)*	?	Trial
'Mero Star' - (pink)	O/P	Very slow grower
'Tiber' - (pink)	P	Big flowers
'Lombardia' - (strong pink)*	O	
'Trumao' (pinkish purple-red)	?	Trial
'Nairobi' (yellowish white)	?	Trial
'Red Reflex' (rich red)	?	Trial
'Black Tie' (rich purplish red)	?	Trial
'Newton' (rich purplish red)	?	Trial
'Striker' (pink)	?	Trial
'Navarosse' (yellowish white)	?	Trial
'Sapporo' (Sande) (yellowish white)	?	Trial
OT HYBRID		
'Conca d'Or' - OT Hybrid (yellow)	P	
'Tarragona' - OT Hybrid (yellow)	P	
'Albany'	?	Trial

** denotes that the colour stated here is that which was given when the cultivar was registered; in our experience, under our light conditions the colours are somewhat paler.*

The future

Lee and I are very aware that we are still on the learning curve, but with each month and a very positive approach to our farm, *Florescence* will continue to produce even better quality liliams. Our eyes are also set on the Calla Lily market, as our production for this year will increase from around 10,000 stems to over 20,000. The goal with these: to grow them all year round.

Finally, we would like to provide you all an open invitation to come to beautiful Albany and visit on the farm and have a personal tour. We can always be contacted by email: sales@florescence.com.au or by phone +61 898411938.



Gilbert White and his lilies

Jeff Coe writes about the life of the great eighteenth century naturalist and the lilies that he grew in his garden at the Wakes in Hampshire.

AT THE END OF THE EIGHTEENTH CENTURY Britain fell in love with nature. Two books, the *History of British Birds* written by Thomas Bewick, born in Northumberland in 1753 and Gilbert White's *Natural History of Selborne*, played a large part in this and today Gilbert White is widely recognised as the first English naturalist.

White's book, first published in 1788, the year preceding the French Revolution, has been in publication continuously until the present day. Some sources say it is the fourth most published book in the English language. The book is a scientific commentary full of observations and records much of which is recorded in a series of letters between White and two naturalists Thomas Pennant, whom White met for the first time in 1767, and Daines Barrington whom he first met in 1769. In 1770 Barrington had suggested White write a book and this encouraged him to write the *Natural History of Selborne*. The book is not only of interest to the modern day naturalist, social historians will also find much of the detail a fascinating commentary on life in a small Hampshire village.

Two extracts from White's book *The Natural History of Selborne* read: "The village of Selborne, and large hamlet of Oak-hanger, with the single farms, and many scattered houses along the verge of the forest, contain upwards of six hundred and seventy inhabitants.¹ We abound with poor; many of whom are sober and industrious, and live comfortably in good stone or brick cottages, which are glazed, and have chambers above stairs: mud buildings we have none. Besides the employment from husbandry the men work in hop gardens, of which we have many; and fell and bark timber. In the spring and summer the women weed the corn; and enjoy a second harvest in September by hop-picking. Formerly, in the dead months they availed themselves greatly by spinning wool,

¹ A state of the parish of Selborne, taken October 4, 1783.

for making of barragons, a genteel corded stuff, much in vogue at that time for summer wear; and chiefly manufactured at Alton, a neighbouring town, by some of the people called Quakers: but from circumstances this trade is at an end. The inhabitants enjoy a good share of health and longevity: and the parish swarms with children”.

And some detail as to the inhabitants of the village: “Total of burials from 1720 to 1779 both inclusive, 60 years - 640. Baptisms exceed burials by more than one-third. Baptisms of Males exceed Females by one-tenth, or one in ten. Burials of Females exceed Males by one in thirty. It appears that a child, born and bred in this parish, has an equal chance to live above forty years. Twins thirteen times, many of whom dying young have lessened the chance for life. Chances for life in men and women appear to be equal”.

Gilbert White was born in Selborne, a north Hampshire village lying just a few miles to the southeast of Alton and about 50 miles to the southwest of London in southern England, in 1720. The White family moved away that year but returned in 1729 and Selborne remained White’s home until his death in 1793.

Gilbert went up to Oriel College, Oxford in 1740. Five years earlier in 1735 Carl Linnaeus the Swedish naturalist had suggested a new classification for living organisms. White became a Fellow of Oriel College in 1744, was ordained in 1746 and became a curate. Ten years later in 1756 he was to become the Vicar at Moreton Pinkney in Northamptonshire but we have no record of his living permanently there.

Five years earlier in 1751 White had started to keep records of activities in his garden and started writing the *Garden Kalendar*. Later writings included details of the flora in Selborne and the surrounding area in *Flora Selborniensis*.

The Wakes and the Garden are a very special place. If I ever write the book “Britain’s Ten Most Beautiful Gardens” the Wakes will undoubtedly feature. The layout and style of the garden is so very attractive and the garden is beautifully maintained and the plants expertly grown. Add to this the backdrop of the beech woods and the Hanger and the Garden and House have that feeling of peace and tranquillity often so hard to find in today’s world.

The garden has been restored to the layout and style of White’s time in the house. The “Six Quarters”, the “Basons” and the vegetable garden are all mentioned in White’s writings. He was of course a keen grower of vegetables and records of this are well documented. The hah so popular in gardens of the time features and a charming seat, the “Wine Pipe” overlooks the house from afar. This was constructed from a Portuguese brandy barrel!

The beech woodlands called “the Hangers” form the backdrop to the house and garden. On Baker’s Hill just a short walk from the house *Lilium martagon* grows well and flowers every year in June. The current plants may well be

descendants of the original White plantings.

The lilies

Turning now specifically to the lilies of Gilbert White we definitely know that he grew five lily species. These are referred to in *The Garden Kalendar* 1751-1777 and *The Journal* 1768-1793. These lily species are known today as *Lilium bulbiferum* var. *croceum*, *L. candidum*, *L. chalcedonicum*, *L. martagon* and *L. pomponium*. However, having researched several papers and books, I also believe there is a strong probability that Gilbert would also have grown or at least been very aware of some of the East Coast American species that were being introduced into cultivation in the mid to late eighteenth century.

Philip Miller F.R.S. writing in 1752 in the sixth edition of his "*The Gardeners Dictionary Containing the Methods of Cultivating and Improving the Kitchen Flowers, Fruit and Pleasure Garden*" mentions an American species *Lilium flavum angustifolium*, the spotted Canada Martagon, now known as *Lilium canadense* or the Canada Lily.

The American botanist John Bartram (1699-1777) sent seed of the following lilies to Peter Collinson a keen gardener, seed importer and distributor who lived in Mill Hill, to the North of London: *Lilium canadense* as above, *Lilium philadelphicum*, the orange-cap lily, and *Lilium superbum*, the American Turk's-cap lily. White would have known or known of William Curtis founder of Curtis's Botanical Magazine in 1787 which has been published continuously to this day. These "leading lights" in the world of plant discovery, importation and cultivation would have had contact with each other if not in person at least by way of plant lists and catalogues.

In the descriptions of two East Coast American lilies further into this article you will read that although we do not have definite proof that White grew the "Americans" we have almost conclusive proof that these new East Coast Americans were known to him.

White would have been unaware of the vast range of species lilies that have been arriving from China during the course of the last 150 years or so. Nor would he have grown the West Coast American species such as *Lilium washingtonianum* var. *pupurascens* which provide a real challenge to lily growers in the UK their cultivation requiring the cool conditions of the mountains of northern California and Oregon with very dry weather from August onwards.

So let's take a look at each of the lily species grown by White and those we suspect he probably grew or at least was very aware of.

Lilium bulbiferum* var. *croceum

This species is not currently grown at the Wakes although I hope to donate some

bulbs soon. I have seen this lily growing and in flower in sub-alpine woodland and also in open pastureland in the Italian Dolomites on the Pordoi Pass and near Arabba. A Swiss member of the Lily Group, Pontus Wallstén, reports seeing it growing on wasteland near his home on the edge of Lake Geneva. In White's time this lily was also known as *Lilium aurantiacum*.

Lilium candidum

When I was Editor of the Lily Group's Newsletter I asked Geoffrey Smith if he would write an article for me on lilies. Presenter of BBC TV Gardeners World in the 1980's and BBC TV World of Flowers, Panellist on BBC Radio Gardeners' Question Time for 20 years and horticultural and gardening writer I knew Geoffrey would write an inspirational article and I was not disappointed. Many of us will have been inspired by Geoffrey's passion for gardening and it will not come as a surprise that lilies are one of his favourite flowers.

He went to North America to make programmes for the *World of Flowers* with Ed McRae one of North America's foremost lily growers. As part of the article Geoffrey wrote: "*In the first century A.D. Pliny the Elder wrote in his "Natural History" "next to the rose there is no fairer flower or one of greater estimation than the lily". Though some might argue with that statement certainly after seeing the "Madonna" lily, Lilium candidum, growing in rock crevices on a sun-baked hillside in Northern Greece, an experience surely Pliny must have enjoyed, I would count the rose and the lily as equals.*"

Writing about the Madonna Lily in the Modern Herbal Mrs Grieve writes:

"Medicinal Action and Uses; Demulcent, astringent. Owing to their highly mucilaginous properties, the bulbs are chiefly employed externally, boiled in milk or water, as emollient cataplasms for tumours, ulcers and external inflammation and have been much used for this purpose in popular practice. The fresh bulb, bruised and applied to hard tumours, softens and ripens them sooner than any other application. Made into an ointment, the bulbs take away corns and remove the pain and inflammation arising from burns and scalds, which they cure without leaving any scar. The ointment also had the reputation of being an excellent application to contracted tendons".

Gerard in his Herbal tells us: "*The root of the Garden Lily stamped with honey gleweth together sinewes that be cut asunder. It bringeth the hairs again upon places which have been burned or scalded, if it be mingled with oil or grease. The root of a white Lily, stamped and strained with wine, and given to drink for two or three days together, expelleth the poison of the pestilence".* Culpepper (1652) tells us the bulb was "*an excellent cure for the dropsy*".

A vigorous clump of the Madonna Lily grows in the flower border under Bell's Library Windows at the Wakes and make a wonderful picture every June.

Lilium chalcedonicum

Grown by White and a real favourite of mine. Native to Greece it is one of the oldest lilies in cultivation. Parkinson writing in his *Paradisus* in 1629 called this lily the "*Red Martagon of Constantinople*" or "*The Scarlet Martagon Lily*". This lily is beautifully illustrated in Elwes' *Monograph on the Genus Lilium*.

Lilium martagon

This lily has been naturalised for so long it is almost regarded as a native plant in the United Kingdom. As mentioned earlier a good stand of *Lilium martagon* grows on Baker's Hill at the Wakes and some authorities believe that today's plants are descendants of those grown by White over two centuries ago. The flowers of the form grown there are pink in colour.

Patrick Synge writing in "*Lilies, A Revision of the Genus Lilium and its Supplements*" in 1980 suggests that the word martagon is derived from an old Turkish word for a special form of the turban which was adopted by the sultan Mohammed 1st. Linnaeus, following the herbalists of the day, adopted the name martagon in his "*Species Plantarum*".

Lilium pomponium

Grown by White *Lilium pomponium* has long been in cultivation. Linnaeus described it in his "*Species Plantarum*". This species is not currently grown at the Wakes.

And turning now to the East Coast North American lilies. As previously mentioned we cannot be sure White grew these lilies but he would almost certainly been aware of them. Later research may give evidence that he grew them.

Lilium canadense

This very beautiful species is not currently in cultivation at the Wakes. White may have grown the yellow spotted form but as yet we have no direct evidence to link him to this species.

Lilium philadelphicum

This species is not currently grown at the Wakes. The huckleberry lily, glade lily or wood lily was introduced in the 1600s from Canada. Patrick Synge writes "*The lily was sent by John Bartram of Philadelphia, the famous American plant collector some time before 1757 to Peter Collinson of Mill Hill and to Philip Miller, who grew it in the Chelsea Physic Garden*". Here is perhaps the most plausible

suggestion that White grew or certainly knew of the existence of the “new” North American lilies.

Lilium superbum

This species is grown at the Wakes. Syngé writes “*Lilium superbum* was one of the earliest American lilies to be introduced into Britain”. He says that Peter Collinson grew it in his garden at Mill Hill and it flowered for him in 1738. A specimen in his garden was painted by the German artist Georg Dionysus Ehret, perhaps the most famous botanical artist of the period. This painting is in the Victoria and Albert Museum in London. As with *Lilium philadelphicum* White would almost certainly have been aware of this species.

Gilbert White died in Selborne in 1793. He never married. He is buried in the cemetery at St Mary’s Church, Selborne. St Mary’s was built in around 1180 on the site of a Saxon church. In the gales of 1990 the Churchyard yew tree was blown down. White would have known this tree well as it was almost opposite his house. The Yew was believed to be 1400 years old.

White’s life spanned the American and the French Revolutions. The wind of change was upon Britain at the end of his life and the day of the Industrial Revolution was soon to dawn signalling the move away from a rural economy. His writings would be read by Keats and Coleridge. Jane Austen in the Hampshire village of Chawton, just a few miles from Selborne, would a few years later write her famous novels. White could never have imagined that the well recorded observations of a clergyman living in a small Hampshire village with around 600 inhabitants in eighteenth century England would have been translated into several languages, in many separate editions and publications and be read around the world. He could never have thought that the *Natural History of Selborne* would survive his death by over 200 years and have such a wide readership today..

Internet references:

Gilbert White’s House and the Oates Museum <http://www.gilbertwhiteshouse.org.uk/>

The Bewick Society <http://www.bewicksociety.org>

The Project Gutenberg collection where you can read part of the *Natural History of Selborne*. There may be copyright restrictions in some countries.
<http://www.gutenberg.org>

Visit the BBC Four Michael Wood website where you can see video clips and footage of Selborne from the series *Gilbert White, The Nature Man*
<http://www.bbc.co.uk/bbcfour/documentaries/features/gilbert-white.shtml>

Readers with broadband internet access can digitally view *The Natural History of Selborne* online at: <http://www.archive.org/details/naturalhistoryan02whituoft> with the kind permission of Canadian Libraries and the University of Toronto

With many thanks to David Standing and the members of staff at the Gilbert White’s House and the Oates Museum, Selborne, Hampshire, UK for their assistance with this article.

Liliaceous plants in the Nizhnekhopersky Nature Park, Russia

The flora of the steppes of southern Russia is under increasing threat from man. However there are areas of the lower reaches of the Khoper River at the north-west of the Volgograd region that remain virgin steppe with characteristic landscapes and an interesting range of rare and threatened species. Many are decorative plants that deserve to be better known and introduced into cultivation.

Vjacheslav Byalt and Gennady Firsov describe this fascinating region and describe some of its native flora.

THE PEOPLE THAT SETTLED in the steppe zone of the European part of the former USSR (Pechenegs, Polovtsy, Tartars) had for many centuries a nomadic life. In peaceful times cattle-breeding was their main business and the impact on the steppe was very moderate with the magnificent and majestic forests continuing to stretch along the banks of the Khoper and Medveditsa rivers. Although the seventeenth century saw Russian settlers grow in numbers, the real change took place from the beginning of the eighteenth through to the middle of the nineteenth century, when the whole territory from the lower reaches of the Danube River, at the west, to the Ural River, at the east, passed to the dominion of the Russian empire. This led to the growth of population and the settlement of both Russians and Ukrainians and the population of nomadic people decreased. The territory which was traditionally referred to as the "Wild Field" was slowly being transformed into a ploughed field. Throughout the nineteenth century agriculture progressively became more intensive and the steppe vegetation was significantly damaged. It is only in the twentieth century that the loss of so many species was understood. Many plants which had once been common became rare and threatened, especially many of the bulbous species.

At the end of the 1760s Johan Falck, the Swedish Director of the Saint-Petersburg Botanic Garden, a pupil and follower of Linnaeus, travelled to this area. He participated in those famous academic expeditions, which under the reign of Katherine the Second were organized to investigate the natural history of the Russian empire. Nearly at the same time other famous botanists, such as J. Georgi and J. Guldenstadt, of the Petersburg Academy of Sciences travelled and collected plants there, but to this day the flora of the region has yet to be fully investigated.

Geographic location

The territory of the lower reaches of the Khoher River (about 250 km north-west of Volgograd) is part of the “Wild Field”. Of all the numerous rivers of the steppe the Khoher River (in English it is also known as Choper) is especially beautiful, flowing for 1,000 km through the five administrative regions of the European part of Russia with the last hundred kilometres in the Kumilzhensky district of the Volgograd region, where it runs into the River Don near stanitsa (Cossack village) Bukanovskaya and there are numerous lakes with water meadows along its floodland. Geographically this territory belongs to the southern end of Khoher-Buzuluk Plain – at the left side, and the southern part of Kalach Hills – at the right side of the river. It was here that the Nizhnekhopersky Nature Park (in English – The Lower Choper Nature Park), the largest in the Volgograd region, was created in 2003: it covers an area of 231 206 hectares. The main aims of the park are to promote the conservation of biodiversity, to help protect nature and to develop scientific, touristic and ecologico-educational activity.

Climate

The territory is characterized by a continental, dry and warm climate, with a lack of precipitation and a lot of sunny days with semi-desert condition in the south east of the Volgograd region. The temperature of the soil surface in July may reach +70° C, especially on sands. But local plants are well adapted, and they stand such temperature. The winters can be as severe as in the middle belt of Russia, with temperatures down to -30° C, but shorter. Even in late April /beginning of May there may be late spring frosts which affect the seed productivity of plants and crops.

Soil types and general landscape

Soils are represented by southern black soils, that are often washed off the slopes, at times with saline soils. In the more northern areas there are plots of common black soils. Along the river valleys alluvial soils were formed, and the terraces are made of sand with poor soils. The right side of Khoher and Buzuluk rivers consist of chalk hills with denudations of pure chalk and carbonates. Khoher-Buzuluk Lowland is characterized by plain watershed, wide valleys and vast floodlands of rivers. Under the influence of water erosion the land surface is cut by many ravines and gorges which prevented the complete ploughing up of virgin steppe and ensured the survival of rare plants. In addition, these ravines protect local species from dry and hot winds in summer and cold winds in winter. Hills of pure sand (at times bare, at times overgrown) occupy a considerable part of territory. The sand stretches across the water plain for many kilometres from the rivers Kumilga and Khoher to the rivers Medveditsa and Don. Small groves of birch (*Betula pubescens*) occur on this land creating a specific type of landscape.



Above, the landscape of the Khoher River in the Nekhaevsky District, seen from the chalk hills of the right bank looking towards the floodland.

Peculiarities of the flora

The flora of this territory is very rich – more than 1,300 species. There are many decorative plants among them that light up the landscape around the Khoher river throughout the growing season. The first to flower in early spring are the tulips (*Tulipa schrenkii* and *T. biebersteiniana*) and other bulbs: *Scilla sibirica*, *Bellevalia speciosa*, *Fritillaria ruthenica*, *Bulbocodium versicolor*. Tulips are a characteristic feature of the true virgin steppes, but they are becoming very rare plants, and Shrenk's tulip has been included in the Red Data Book of Russia. It was this tulip which served as a base for numerous Dutch cultivars, but in nature its populations have been sharply decreasing. Future generations may never see the picturesque red-yellow living carpets of wild tulips in spring.

Grasses such as *Stipa capillata*, *S. lessingiana*, *S. pennata*, *S. dasyphylla*, *S. pulcherrima* make iridescent waves in the wind and some highly decorative and rare species, such as pink *Paeonia tenuifolia* and yellow *Adonis wolgensis* survive. *Phlomis pungens*, *Limonium latifolium*, *Goniolimon tataricum* and *Gypsophila paniculata* are present and in autumn their seed is distributed across the steppe by the wind. There are many subshrubs and dwarf subshrubs in the



Left, *Fritillaria ruthenica* growing in the environs of stanitsa Bukanovskaya, on the edge of a shrubby thicket along the edge of Fomin Ravine.

Above, *Scilla sibirica* in oak woodland at Shakinskaya Dubrava.

flora of the steppe, species of *Artemisia* being of special importance. Some soils are salty, and at such saline places one finds salt resistant plants such as *Kochia prostrata*, *Salicornia europaea*, *Suaeda* spp. and other peculiar plants.

There are large areas of chalk along the banks of steppe rivers where the vegetation gradually or sharply disappears giving way to pure chalk, where entirely other plants occur. On a sunny day the chalk glitters and is as blinding to the eyes as snow in mountains. The air is filled with fragrance, because there are many plants of the Lamiaceae family, which contain essential oils. On chalk scree or chalk stones only specific chalk plants grow, these are *Scrophularia cretacea*, *Pimpinella tragioides*, *Silene cretacea*, *Hyssopus cretaceus*, *Linaria cretacea*, *Linum ucrainicum*, *Hedysarum ucrainicum*, *H. grandiflorum* and many others. Chalk plants don't stand competition with other plants and don't form a complete cover.

Allium regelianum was described from Sarepta, in the southern environs of Volgograd, by the well-known naturalist of the nineteenth century A. Bekker, and was named after the Director of the Saint-Petersburg Botanic Garden E.L. Regel. During many years there were no sightings of this species, and it was

considered extinct but in 1984 the species was repeatedly discovered in several places of the Volgograd region, but in a limited area. This is a highly decorative bulbous plant with narrow leaves and an umbel of purple-pinkish flowers. The main bulb is surrounded by many bulbils. In July 1996 we discovered it on chalk hills of the Kholer River not far from the mouth of the Kumilga River (Firsov, Baranova, 1997). *Clematis orientalis* was another extremely interesting find, also from the chalk hills of the Kholer River, which we discovered quite recently, in August 2000. Here it grows hundred kilometres north from the main part of its natural habitat. This is the only arboreal climber in the flora of the whole Lower Don area, and the diminutive population near khutor (small Cossack village) Pustovsky, not far from the mouth of the Kholer River, represents the extreme northern point in the European part of its habitat (Firsov, 2002). Local bulbs and Liliaceous related plants are an important part of the native flora, they belong to the families Alliaceae, Colchicaceae, Hyacinthaceae, Iridaceae and Liliaceae.

Vegetation

The main type of vegetation of the steppe is grasses of different kind with a dominance of *Festuca*, some agriculture, water meadows, forests and chalk plants.

The afforestation of the lower reaches of the Kholer River is about 12%, which is much more than at the average for the Volgograd region. The main woods are situated at the river valleys, these are so called ribbon forests. There are also upland and ravine forests which are of great importance for the local population and for the conservation of rare native species. The main forest tree is oak (*Quercus robur*) with poplars and elms (*Populus nigra*, *Populus alba*, *Ulmus minor*), *Pyrus pyraister* and *Malus praecox*. The white willow (*Salix alba*) forms forests along the river banks, together with other shrubby willows. Shrubby species, such as *Amygdalus nana*, *Cerasus fruticosa*, *Prunus spinosa*, produce thickets in steppe ravines and at the edge of upland and floodland forests.

The water meadows of the Kholer River and its tributaries are species rich and some are used for hay making. The many species include *Gentiana pneumonanthe*, *Fritillaria meleagroides*, *Gladiolus tenuis*, *Valeriana officinalis*, *Allium praescissum*, with, among the dominant common meadow grasses, *Alopecurus pratensis*, *Elytrigia repens* and *Poa pratensis*. On lower ground around lakes one finds *Iris pseudacorus*, *Symphytum tanaicense*, *Althaea officinalis* and various sedges and dense thickets of *Typha latifolia*, *Scirpus lacustris*, *Phragmites australis*.

As for really aquatic plants, there are about 15 species of *Potamogeton*, *Trapa natans*, or aquatic nut, *Nymphaea alba* and *N. candida* and the water fern, *Salvinia natans*, together with *Lemna minor*, *Spirodela polyrbiza* and other aquatic floating plants.

Threatened species

As a result of our original research since 1996, it was clarified that 24 species officially included in the Red Data Book of Russia (2005) occur in the Lower Khoper Nature Park, these are: *Artemisia hololeuca* Bieb. ex Bess., *A. salsoloides* Willd. (Asteraceae), *Lepidium meyeri* Claus, *Matthiola fragrans* Bunge (Brassicaceae), *Silene cretacea* Fisch., *S. bellmannii* Claus (Caryophyllaceae), *Scrophularia cretacea* Fisch. (Scrophulariaceae), *Astragalus tanaiticus* C. Koch, *Hedysarum cretaceum* Fisch., *H. grandiflorum* Pall. (Fabaceae), *Allium regelianum* A. Beck. (Alliaceae), *Bulbocodium versicolor* (Ker-Gawl.) Spreng. (Colchicaceae), *Bellevalia speciosa* (Georgi) Woronow (Hyacinthaceae), *Fritillaria ruthenica* Wikstr., *Tulipa schrenkii* Regel (Liliaceae), *Iris aphylla* L. (Iridaceae), *Hyssopus cretaceus* Dubjan. (Lamiaceae), *Stipa dasyphylla* (Lindem), Trautv., *S. pennata* L., *S. pulcherrima* C. Koch (Poaceae), *Orchis coriophora* L., *O. militaris* L., *O. palustris* Jacq. (Orchidaceae), *Paeonia tenuifolia* L. (Paeoniaceae). *Iris pumila* L. was included in the first edition of the Red Data Book of Russia (1988), it also grows in this territory.

The main factor causing the disappearance of many steppe plants was ploughing up of virgin steppe but even hay making has an influence on the population and distribution of certain species (for example, *Allium regelianum* and *Fritillaria meleagroides*). First of all, this is true for those meadow-steppe species which have unripe seeds in the hay making season. So, in hay making areas one cannot find *Bellevalia speciosa*. It cannot be propagated vegetatively with bulbils but only by seed and plants must pass through difficult and complex phases of development during several years before they come into flower. And under continuous cutting of the grass the mother bulb is gradually exhausted and dies (Firsov, Baranova, 2002). Our inspection of chalk hills of the Khoper River from khutor Koso-Kluchansky downwards to the mouth of Kumilga River in July 2001 showed that certain plants, such as bulbous alliums, grow only on a very narrow strip along the precipitous bank of the river, at times only 2 to 5 m wide, from the edge of the upland oak wood or edge of the slope to the edge of field or hay making area. It is the bulbous species that are most at peril from the plough which throws them up to the soil surface where they soon dry out and perish.

At present the situation with plant conservation has changed considerably. The Red Data Book of the Volgograd region has been published and the “Nizhnekhopersky” and “Ust-Medveditsky” parks have been established at the lower reaches of the Khoper and Medveditsa rivers. In total seven nature parks were recently created in the Volgograd region. We hope this will help to conserve and protect large areas of steppe vegetation for future generations.



The red form of *Tulipa shrenkii* flowering on 23 April 2006 not far from stanitsa Bukanovskaya. The yellow form of the same species was growing in the Nekhaevsky district.

Places of interest:

Shakinskaya Dubrava

Shakinskaya Dubrava or Shakinsky Oak Wood at the right side of the Khofer River near khutor Shakin is one the most southern points of relic upland oak woods of the European part of Russia, with trees of *Quercus robur* exceeding 200 years old. The presence of such plants, which usually grow in the more northerly forests (*Berberis vulgaris*, *Fraxinus excelsior*, *Sorbus aucuparia*, *Stachys sylvatica*) give the Shakinsky Oak Wook a very particular character. Many species here are situated at the southern and south-eastern borders of their natural habitats. Here one can also find rare flowering plants, such as *Ornithogalum kochii*, *Adonis wolgensis* and orchids (*Platanthera bifolia*, *Epipactis atrorubens* and *E. belleborine*). It is a pleasure to visit Dubrava on a hot sunny day and to find yourself under the cool shade of broadleaved oaks and elms and see summer flowers at the time when the surrounding steppe begins to fade, become dull and burnt with sun. And it is especially beautiful here in spring, when the ground of the still transparent forest is covered by a carpet of blue fragrant *Scilla sibirica*, which is called here a snowdrop. At Dubrava one can see large glades completely covered by dense stand of snowdrops, at flowering time they look like blue lakes inside of the forest. Among many thousands of blue flowers one may discover from time to time flowers which are nearly pure white. Their stamens may be with yellow or greenish anthers. Petals may be not only be whitish but also



Tulipa biebersteiniana in the Fomin Ravine in the environs of stanitsa Bukanovskaya, in mid-April 2006.

pinkish or bicoloured with longitudinal white and blue stripes. Wild boars like to eat the delicious bulbs. At places one sees signs of their activity – freshly dug up glades and wilting flowers of snowdrops with eaten roots. There are other bulbs at Shakinskaya Dubrava, with *Muscari neglectum* being one of the rarest of them all and in other areas one can be surrounded with a lovely exotic flowering carpet of pale yellow *Corydalis marschalliana*.

Bare sands

The large massif of sand hills between khutors Chunosov and Sigayevsky in the Kumilzhensky district was formed along the edge of melting glaciers long ago when the climate was becoming warmer. Barkhans or hills 10 to 15 m high form a picturesque landscape reminding one of the deserts of Central Asia, though this territory is situated far north of them. To cultivate successfully plants of such unusual ecological places, it is necessary to create special areas and to grow them in sandy soil, in a very light position. *Thymus pallasianus* belongs to these psammophytic plants. This is a dwarf fragrant and long flowering shrub that is decorative, much frequented by honey bees, produces essential oils and, added to tea gives it a special aroma and has medicinal properties. Such shrubs as *Salix acutifolia* and *Chamaecytisus rubenicus* belong to sand-loving plants and among herbaceous plants are *Helychrisum arenarium*, *Dianthus squarrosus* and *Jurinea cyanoides*. The sand-loving bulbous species include *Gagea* (*Gagea bulbifera* is especially common) and some alliums (such as the typical psammophyte *Allium savranicum*).

Groves of northern forests

Very close to the hot and sunburnt sands, one can move into the cool shade of alder forest, under a dense canopy of black alder (*Alnus glutinosa*). Black alder communities produce a refuge for many rare and relic plants penetrating to the south from northern forests. Here you can find thickets of rare ferns. There are also interesting sedges, rare *Veratrum lobelianum*, *Geum aleppicum* and other unusual plants for that territory, including orchids and bulbs.

Relic lakes

On the sandy floodland terrace of the left side of Kumilga river along the borders of this sand massif there is a chain of small lakes with a set of rare and interesting species, many of them came from the north with the glacier and stayed to live here after it had melted. Here one can find extremely rare *Lycopodiella inundata*, and also *Menianthes trifoliata*, *Comarum palustre*, white moss *Sphagnum* and other plants that are unusual on the steppes. There are also some very rare orchids, such as *Orchis militaris*.

Floating islands

Large Babinsky and Small Babinsky Lakes in the environs of stanitsa Alexeevskaya (named after son of Peter the Great, tsarevich Alexej) are interesting as they have floating islands (Byalt, Firsov, Sidorov, 2006). Their base is formed by roots of *Phragmites altissimus* and there is a real forest growing on these islands with *Betula pubescens* and *Populus tremula*, up to 10 m high and 15-18 cm in trunk diameter. Islands reach considerable sizes to one hectare and more. In windy weather they travel from one bank to another. The island may stand near the bank for a long time, but if the wind changes direction, the island easily travels to the opposite shore, the trees forming a natural sail. This may frighten the odd fisherman. It is interesting to have an excursion on such an island as it seems that you are in real forest but with ones feet dropping into the mossy soil and having to move with great care, pushing through the large fern *Thelypteris palustris* and avoiding the open "windows" of water, fallen twigs and trunks of birches that have been cut off by beavers. On the island are beautiful flowering herbs such as *Inula helenium* and *Calystegia sepium* but we were not able to discover bulbs due to the very wet and boggy conditions on the islands. The bulbous plants not being adapted to stand very wet and boggy places.

Seasonal changes

The profuse flowering of numerous small white flowers of *Spiraea crenata* and *S. litwinowii*, together with pinkish steppe almond (*Amygdalus nana*), and white wild plum (*Prunus spinosa*), shrubby wild cherry (*Cerasus fruticosa*) gives the unforgettable picturesque appearance to the spring steppe. In a short time the steppe changes completely, there is a honey smell all around. There are

bees and butterflies in the air, and steppe ravines become white and rosy like a bride. Among thickets of shrubs and low trees a dense multi-coloured carpet of *Corydalis bulbosa* and *Corydalis marschalliana*, *Scilla sibirica* and *Tulipa biebersteiniana* appears. In open places the spring steppe is a delicate crisp green, with spots of yellow and red Shrenk's tulips, multi-coloured irises (*Iris pumila*, *Iris halophila*), *Fritillaria ruthenica* and *Adonis wolgensis*.

They are followed at the end of spring by the fragrant salvias that come into flower: *Salvia tesquicola*, *S. nutans*, *S. aethiopica*, and perennial and arboreal astragaluses. *Salvia tesquicola* can turn the steppe lilac-blue. In the birch groves on sand hills orchids begin to flower in May. May to the beginning of June is the period of mass and profuse flowering of many plants of the steppe. Somewhat later the wild strawberry (*Fragaria viridis*) begins to ripen on the chalk hills and steppe ravines. Whether its crop is profuse or berries burnt by the sun, depends on summer rains. In July the steppe becomes yellow and dry, staying thus till the first autumnal rains.

The middle of the hot summer is the time to look at the flowering plants of the water meadows. On the banks of numerous large and small lakes the high perennial *Senecio tataricum* is seen from far away because of its large yellow flowers, together with pink spikes of *Lythrum salicaria* and *Lythrum virgata*.

At the end of summer the number of flowers diminishes considerably, but in autumn the steppe again becomes colourful. Leaves of *Euonymus verrucosus* turn to bright red and create the effect of burning fires here and there against the chalk hills. Yellow leaves of *Acer campestre* decorate the autumnal forest against a background of black and grey tree trunks and whitish slopes of chalk ravines. This is a period of seeds ripening, though the seeds of many ephemeroïd bulbs had ripened at the beginning of summer. Some high grasses from the Apiaceae family form specific communities and remind one of the more familiar high grasslands of the Far East. Bright berries of *Berberis vulgaris*, hawthorns (*Crataegus ambigua* and *C. rhypidophylla*) and various rose species (*Rosa corymbifera*, *R. majalis*, *R. microdenia*, *R. rubiginosa*) decorate steppe ravines for a long time. Step by step the tinges of the steppe become more and more dull and gloomy. In late autumn, before everything is covered in snow, the grey colour dominates the steppe, but green tinges appear from the fresh grass of the steppe plants, such as *Festuca valesiaca*, feather-grasses and bulbous alliums that begin to grow after the autumnal rains.

Liliaceous and other bulbs of the Lower Kheper

The steppe zone at the southern end of the European part of Russia is much richer in bulbous plants compared to the forest zone. Bulb plants belong to several families, Alliaceae and Liliaceae being the richest among them. Below



Chalk gorges and ravines of Choper River near stanitsa Lukovskaya, Nekhaevsky district.

we enumerate bulbous plants of the Lower Khoper Nature Park identified to the present day. In the following list the ecological characteristic, occurrence and information in distribution in the territory are given, with short comments where necessary. We include as well several species which have not been found yet in the Park, but are known from the adjacent territories, not far from its borders. Perhaps in the future they may be discovered in the Park.

Fam. ALLIACEAE Borkh.

***Allium angulosum* L.**

Perennial. Floodland meadows, glades and edges of wood, banks of lakes, rarified forests, also sandy meadows, banks of small lakes on sandy terrace of the left bank of the Kumilga River. Not seldom. Meadow plants. Fl. V-VI.

***A. decipiens* Fisch. ex Schult. et Schult. fil.**

Perennial. Chalk hills, steppe slopes, edges of forests, in Shakinskaya Dubrava, on left side of Kumilga River at khutor Chunosov, near stanitsas Lukovskaya, Upornikovskaya and Fedoseevskaya, khutors Akishevsky and Pustovsky. Rather seldom. Petrophilous-steppe plants. Fl. V-VI.

***A. flavescens* Bess.**

Perennial. Open slopes of steppe ravines. Rather seldom. Steppe plants. Fl. VI-VII.



Above, a large population of gladiolus (*Gladiolus tenuis*) flowering in a salty meadow of the Buzuluk River, just north of stanitsa Alexeevskaya.

Left, *Bellevalia speciosa* in tight bud.

A. globosum Bieb.

Perennial. Kumilzhensky district, chalk hills of right bank of the Koper River above Koso- Kluchansky (11 VIII 2000). Petrophilous-steppe plants. Fl. VI-VII.

A. inaequale Janka

Perennial. 3 VIII 2000, extremity of chalk hills of the Koper River near stanitsa Bukanovskaya, on semi-overgrown chalk; 7 VIII 2000, chalk denudations at stanitsa Slashevskaya. Seldom. Petrophilous-steppe plants. Fl. VII-VIII.

A. lineare L.

Perennial. Chalk hills, steppe slopes, glades and edges of woods, mainly in upland part. Rather seldom. Petrophilous-steppe plants. Fl. VI.

A. oleraceum L.

Perennial. Glades and edges of wood, floodland forests, meadows, steppe ravines, shrubby thickets. Not seldom. Edge of woods and woody plants. Fl. VII-VIII.

A. paczoskianum Tuzs.

Perennial. Steppe slopes, chalk hills, glades in Shakinskaya Dubrava. Rather seldom. Petrophilous-steppe plants. Fl. VI-VII.

A. podolicum (Aschers. & Graebn.) Blocki ex Racib.

Perennial. Steppe slopes, shrubby thickets, near springs. It was discovered by V.A. Sagalayev (1988) on the banks of the Koper River (stanitsa Lukovskaya and stanitsa Ust-Buzulukskaya) and Buzuluk (khutors Stezhki and Shubinsky, environs of stanitsa Alexeevskaya). Rather seldom. Petrophilous-steppe plants. Fl. VI-VIII.

A. praescissum Reichenb.

Perennial. Kumilzhensky district, overgrown sand, on border between floodland and sand hills between places Gremjachy and Baranov, left side of the Koper River. Seldom. Psammophilous-halophilous-meadow-steppe plants. Fl. VI-VII.

A. regelianum A. Beck.

Perennial. Chalk hills of right side of the Koper River, saline meadow at border of floodland and sand near lake Gromok on left side of the Koper; Shakinskaya Dubrava ("Kumilzhensky district, environs of village Shakin, Shakinskaya Dubrava, glade among old oaks, not far from the office of forest enterprise. 14.07.2001, G.A. Firsov (LEI)" and chalks at Buzuluk River (Alexeevsky district, right bank of Buzuluk River, 6-12 km up from stanitsa Alexeevskaya, Seldom. Petrophilous-halophilous-steppe plants. Fl. VI-VII. Species is included in the Red Data Book of Russia (1988, 2005) and of Volgograd region (2005).

A. rotundum L.

Perennial. Chalk hills, steppe slopes, glades in Shakinskaya Dubrava. Rather seldom. Edge of wood-steppe plants. Fl. VI. Polymorphous species.

A. savranicum Bess.

Perennial. Kumilzhensky district, sands between Gromok and Baranov, in place Berezniki, Shakinskaya Dubrava, left side of the Koper River near its mouth. Seldom. Psammophilous-steppe plants. It was seen by V.A. Sagalayev (1987) also at the mouth of the Buzuluk River. Recommended for protection in Volgograd region. Fl. VI-VIII.

A. scorodoprasum L.

Perennial. Very seldom. ("Kumylzhensky district, a glade in Shakinskaya Dubrava, 14 VII 2001, G. Firsov (LEI)". Edge of wood-meadow plants. This species before was not found in the Volgograd region (Sagalayev, 2006a) or the region of the Lower Don (Zozulin, 1985). It is more or less frequent as far west as the Ukraine (Myakushko, 1987). Fl. VI-VII.

A. spbaerocephalon L.

Perennial. Chalk hills, steppe slopes, overgrown sands and sandy steppe, on edges and

glades at places Berezniki (environs of stanitsa Kumilzhenskaya), Shakinskaya Dubrava, Lokhmaty Barrow and others. Not seldom. Steppe plants. Fl. VI-VII.

***A. tulipifolium* Ledeb.**

Perennial. Steppe chalk slopes, steep riverbanks, shrubby thickets. Seldom. It was not identified for the Kholer area (Sagalaev, 1987). Fl. IV-V. It is distinguished from the closely related *A. decipiens* by whitish (not pinkish), small flowers, anthers being protruded from the corolla, and by a shorter cover. Besides, *A. tulipifolium* flowers earlier in the year, so it is fruiting in June when *A. decipiens* is only beginning to flower. Steppe plants.

V.P. Drobov (1906) identified another two species: *Allium flavum* L. for chalks near stanitsa Zotovskaya and *A. moschatum* L. for sands near stanitsa Ust-Buzulukskaya. It is not clear for us what alliums Mr Drobov had in mind under these names, because both species were described from Western Europe and apparently don't reach the Kholer River. We don't know where the herbarium specimens of V.P. Drobov are kept. We may suppose that *A. flavum* in his understanding is identical to *A. flavescens* Bess.

Fam. COLCHICACEAE DC.

***Bulbocodium versicolor* (Ker-Gawl.) Spreng.**

Perennial. Kumilzhensky district, slopes of steppe ravines between stanitsa Slashevskaya and khutor Shakin, near khutor Filinsky, on glades and edges in Shakinskaya Dubrava; Nekhaevsky district, near stanitsa Upornikovskaya; at times it is cultivated (khutor Chunosov). Very seldom. Edge of wood-steppe plants. Fl. III-IV. Included in the Red Data Book of Russia (1988, 2005) and of the Volgograd region (2005). The population of *Bulbocodium* near stanitsa Slashevskaya is very small, situated along the edge of ravine, between agricultural field and slope of ravine, and may easily disappear. Plants with white flowers (*f. alba*) were found in the wild by local naturalist Sergej Grishin and replanted in his private garden.

***Colchicum laetum* Stev.**

Perennial. Virgin steppe, saline soils and salty meadows. This species has not been found in the territory of the park yet, but identified in neighbouring territories of the Rostov region, in the environs of stanitsa Bokovskaya and khutor Grachev (Fedyaeva, 2004). Halophilous-steppe plants. It is included in Red Data Book of Russia (1988, 2005). This species is of very late flowering, usually in October, and apparently may be missed by collectors.

Fam. HYACINTHACEAE Batsch

***Bellevalia speciosa* (Georgi ex Grossh.) Woron.**

(*B. sarmatica* (Pall. ex Georgi) Woronow)

Perennial. Steppe slopes and edges of shrubs of a ravine Dolgy on right side of the Kholer River, environs of stanitsa Slashevskaya. Seldom. Edge of wood-steppe plants. In former times this species was widely distributed throughout steppe zone of Eastern Europe. After the virgin steppe was ploughed up it has been quickly disappearing, and is a very rare plant. It is included in the Red Data Book of Russia (1988, 2005) and of the Volgograd region (2005). In the Lower Kholer Nature Park it was discovered on steppe slopes and on the edge of the Dolgy Ravine on the right side of the Kholer River, in the environs of stanitsa Slashevskaya (Firsov, Baranova, 2002). It was also identified in khutor Ostroukhovsky of Kumilzhensky district (Sagalaev, 2000).

This species is more widely known under name *B. sarmatica* (Pall. ex Miscz.) Woronow, but E.V. Mordak in her last publications clarified that *Bellevalia speciosa* (Georgi ex Grossh.) Woron. is its true name and has priority. (Mordak, 2003).



Two of the many different forms of *Tulipa biebersteiniana* found in Shakinskaya Dubrava (see p. 120).

***Hyacinthella leucapbaea* (C. Koch) Schur.**

Perennial. Stony and steppe slopes, ravines. Very seldom (Sagalaev, 2000). Fl. IV-V. In the territory of the Park this species has not been found, but really occurs somewhat to the north, at Urjupinsky district of Volgograd region near khutor Bespalovsky, and in Saratov region.

***Muscari neglectum* Guss. (M. racemosum auct.).**

Perennial. Very rare plant in the territory of the Park, known only from Shakinskaya Dubrava, where it was once collected ("khutor Shakin, 4 V 1976, anonym (VOLG)" (Kuvaldina, 1982). Meadow-steppe plants. Fl. IV-V. Included in the Red Data Book of Volgograd region (2005).

***Ornithogallum fischeri* Krash.**

Perennial. Open plain steppe, slopes of steppe ravines, dry meadows. Edge of woods-steppe plants. Fl. V-VI. Until now it has not been found in the Park yet, but occurs seldom to the south-east, at Sholokhovsky district of Rostov region (Fedyayeva, 2004) and in other districts of the Volgograd region. It is distinguished from *O. kochii* by its elongated inflorescence and larger flowers, the seed pods being 3-angled (not 6-angled as in *O. kochii*).

***O. kochii* Parl.**

Perennial. Slopes of steppe ravines, in glades and on the edges of wood; not seldom. Edge of wood-steppe plants. This species was first identified in this territory by A.K. Skvortsov (1971). It was discovered in Shakinskaya Dubrava and published under the name *Ornithogallum gussonei*. For a long time it was considered a very rare species for the Lower Kholer area, but latest field research clarified that it occurs in many places throughout the Park on chalk and steppe slopes and edges of upland forests (near khutor Podok, stanitsas Bukanovskaya and Slashevskaya of Kumilzhensky district; khutor Shubinsky of Alexeevsky district and others). Fl. IV-V.

***Scilla sibirica* Haw.**

Perennial. Upland woods, shrubby thickets of steppe ravines, in alder forests, under canopy of trees, in glades; frequently. In spring it makes carpets of blue in Shakinskaya

Dubrava, in upland oakwoods, alder groves, steppe ravines. Among the typical blue-coloured form there are many variants which are of special interest for gardens. Fl. IV.

Fam. IRIDACEAE Juss.

***Crocus reticulatus* Stev. ex Adam.**

Perennial. Virgin steppe, slopes of ravines, edges of forests. The oral report that this species occurs on steppe slopes along the right bank of the Khoper River at Tishansky forest enterprise and near stanitsa Upornikovskaya in the Nekhaevsky district has not been confirmed (after our investigation in fact it happened to be *Bulbocodium versicolor*). There is data that this species grows somewhat to the south-east, in Sholokhovsky district of the Rostov region (Fedyayeva, 2004). Edge of wood-steppe plants. Fl. III. Apparently it may be missed because of very early flowering.

***Gladiolus tenuis* Bieb.** (G. imbricatus auct., G. apterus Klok.)

Perennial. Birch groves, meadows and glades in Shakinskaya Dubrava (Drobov, 1906); salty water meadows of the Buzuluk River. Rather seldom (environs of stanitsas Fedoseevskaya, Kumilzhenskaya, Slashevskaya, Alexeevskaya, Upornikovskaya). Edge of wood-meadow plants. Fl. V-VI. Included in the Red Data Book of Volgograd region (2005). It flowers beautifully near khutor Pomalinsky of Alexeevsky district, in a water meadow along the Buzuluk River.

Besides *Gladiolus*, there are four species of the wild irises in the Park (*Iris aphylla* L., *I. balophila* Pall., *I. pseudacorus* L. è *I. pumila* L.). The rarest among them are *I. aphylla* and *I. pumilla*, highly decorative and flowering at the same time as tulips and *Fritillaria*.

Fam. LILIACEAE Juss.

***Fritillaria meleagris* L.**

Perennial. Floodland meadows of Khoper River. Extremely rare. It was identified once by A.I. Kuvaldina (1982) in the environs of stanitsa Ust-Buzulukskaya of Alexeevsky district, but we have not been able to confirm this. It was possibly a mistake in identification, and in fact *Fritillaria meleagroides* was collected. Moreover, this species is absent in the Flora of the Lower Volga area (Sagalaev, 2006b). Meadow plants. Fl. V.

***F. meleagroides* Patrín ex Schult. et Schult. fil.**

Perennial. Floodland meadows of rivers Khoper, Don and Buzuluk, environs of stanitsa Bukanovskaya and stanitsa Alexeevskaya (between khutors Pomalinsky and Lipky). Seldom. Meadow plants. Fl. V.

***F. ruthenica* Wikstr.**

Perennial. Edges and glades of upland woods, edges of shrubby thickets in steppe ravines, penetrates under the canopy of forests. Seldom (environs of stanitsas Bukanovskaya, Slashchevskaya, Ust-Buzulukskaya, Lukovskaya, villages Shakin, Akishevsky, etc.). Edge of wood and woody plants. Included in the Red Data books of Russia (1988, 2005) and of the Volgograd region (2005). Fl. IV-V.

***Gagea bulbifera* (Pall.) Salisb.**

Perennial. Steppe slopes, chalk hills, saline soils. Common. Petrophilous-steppe plants. Fl. IV-V.

***G. erubescens* (Bess.) Schult. & Schult. f.**

Perennial. Edges of upland oak woods, shrubby thickets, grassy slopes of steppe ravines. Until now it has not been found in the Park, but it was identified in this area without mentioning the exact places (Sagalaev, 2000). Of seldom occurrence at Sholokhovsky district of Rostov region (Fedyayeva, 2004). Edge of wood-meadow-steppe plants. Fl. III-IV. Apparently it is missed by collectors because of very early flowering.

***G. granulosa* Turcz.**

Perennial. Among steppe shrubs, edges of light forests. Environs of stanitsa Ust-Buzulivskaya and stanitsa Nekhaevskaya (Sagalaev, 2000). Meadow-steppe plants. Seldom. Fl. IV-V.

***G. minima* (L). Ker-Gawl.**

Perennial. Steppe slopes, edges of upland woods and shrubby thickets in steppe ravines, rarified forests and forest belts. Rather seldom (near khutors Ozhogin and Shakin, between khutors Krivsky and Pustovsky, near stanitsa Ust-Buzulivskaya and other places). Edge of wood-woody-steppe plants. Fl. IV-V.

***G. podolica* Schult. et Schult. fil.**

Perennial. On chalk hills, steppe slopes, glades and edges of woods, in rarified forests, between birch groves, on saline soils, overgrown sand, banks of reservoirs. Very common. Edge of wood-steppe plants. Fl. IV-V.

***G. pusilla* Schult. & Schult. fil.**

Perennial. Steppe, slopes of ravines. It has not been found in the Park, but V.V. Fedyayeva (2004) is of the opinion that it is common in the adjacent Sholokhovskiy district of Rostov region. Edge of wood-steppe plants. Fl. III-IV. Apparently it was stated for the Volgograd region by mistaken identity.

***Tulipa biebersteiniana* Schult. et Schult. fil. s.l.**

Perennial. Woods, slopes of steppe ravines, shrubby thickets, glades and edges of forest. Quite common. Edge of wood-woody-steppe plants.

In the territory of the Park there are several different forms related to *T. biebersteiniana*. So, in Shakinskaya Dubrava a white flowering form occurs, which was once identified as a separate species, *T. patens* Agardh. ex Schult. & Schult. f. (Sagalaev, 2006b). *Tulipa patens* was identified in the Nekhaevskiy district (Kuvaldina, 1982). We discovered it in a small glade, numbering several dozen plants, growing together; it was a pale yellow flowering form. The flowers were of nearly the same shape as the typical *T. biebersteiniana*, but of another colour. They have white petals, with yellow centre, and pinkish tips. Besides, in more shady and wet places another form was found, with larger flowers, hooked and bending inflorescences before flowering, rather large bulbs which produce stolons. In many characteristics these plants may be united with real *Tulipa sylvestris* L. At chalk hills and saline places one finds another form – these are low plants with narrow glaucous leaves and upright inflorescences. Earlier it was described as *T. scythica* Klok. & Zos. The real status of these forms is not clear for us at present and requires further investigation.

***T. schrenkii* Regel (*T. gesneriana* L.)**

Perennial. Open slopes of steppe ravines, chalk hills. It prefers hard clay, salty or carbonate soils. Seldom (near stanitsas Ust-Buzulivskaya, Bukanovskaya, Fedoseevskaya etc.). Steppe plants. It has become a very rare plant due to ploughing up of virgin steppe and mass picking for bunches of flowers. Nowadays it does not produce the same spectacle as in former times, when it made complete red-yellow fields. Yellow flowers may be found much more seldom than red ones (according to literature data they may also be white). The flowers may, or not, have black or yellow spot in the middle (near the base of petals); petals being acuminate or more seldom obtuse. Bulbs are situated much deeper in the ground than those of other tulips.

Introduced and cultivated Liliaceous plants

Some decorative species of local flora are cultivated in gardens and orchards at stanitsas Bukanovskaya, Kumilzheskaya and other small and large Cossack

villages. These include *Scilla sibirica*, *Paeonia tenuifolia*, *Tulipa gesneriana*, *T. biebersteiniana*.

As well as the wild bulbous plants, local people grow many introduced Liliaceous and related plants. We observed and checked in private gardens several species of tulips (*Tulipa gesneriana*, *T. praestans* Hoog), several species of lilies (*Lilium regale* E.H. Wilson, *L. lancifolium* Thunb., *L. bulbiferum* L.) and other related plants: *Hemerocallis fulva* (L.) L., *H. lilio-asphodelus* L., *Hyacinthus orientalis* L., *Gladiolus x cultorum* hort., *Narcissus poeticus* L., *N. pseudonarcissus* L. etc.

The introduction to the Khoper area takes place spontaneously and accidentally, because scientific centres, such as botanical gardens, arboreta or specialized nurseries are absent. As a result, the assortment of bulbs and other related liliaceous plants is rather poor although Cossacks like to decorate their yards with flowers. A severe climate is also a limiting factor and does not encourage further introduction of more exotic species of bulbs which would not withstand the cold winters without digging up which makes cultivation more difficult.

There is much to do

As it was mentioned earlier, the flora of the steppe of southern Russia is under increasing threat from man. Due to intensive animal breeding and ploughing up of virgin steppe for agriculture, as well as the complete forestation of sands in recent decades, the number of threatened plant species has increased considerably.

At the same time the area of the lower reaches of the Khoper River differs from many other steppe territories by the survival of primary virgin steppe. That is why more than 35% of species included in the Red Data Book of the Volgograd region occur here, this is a most special area for nature in the whole of the Lower Volga region.

Botanically this territory is poorly investigated, and there are not many specimens in the leading herbaria of Russia from this territory. Our field research of the last years has enlarged our knowledge of this flora, and many herbarium specimens have been collected (about 8,000 sheets). In 2005-2006 with the help of a Rufford Small Grant (Project 41.01.05) four botanical expeditions at different times of the growing season were organized to the place for the purpose of examining the threatened flora and updating the general list of plants. At present together with Prof. V.A. Sagalaev, we have been compiling the Flora of the Lower Khoper Nature Park. Many species have not yet been introduced to cultivation, which is an important task for the future. There is an urgent need to conserve plants of the Russian steppe in their natural habitat and to protect them for future generations. There hope that the Nature Park "Nizhnekhopersky" will play an important role in the conservation of steppe plants and in educating people to love nature.

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The International Lily Registrar

*Kate Donald was appointed to the post in 2006.
Here she introduces herself.*

BEING A PART-TIME REGISTRAR enables me to mull over knotty registration issues while working on the croft. It didn't take long to conclude that however much I wittered on about horticultural training and experience, sooner or later I would have to confess that lilies have not, up until now, loomed large in my career. Daffodils have. Daffodils still do. Spring is a juggling act between trying to name some of our 550 stocks of pre-1930 *Narcissus* cultivars, which have hitherto defied identification; working on lily registration; growing fruit, vegetables and flowers, and maintaining the hedges and boundaries which protect our 3½-acre croft.

Ever since I enjoyed spectacular success with mignonette over 40 years ago, I have gardened. I remember the excitement when *Lilium* 'Enchantment' brandished its exotic flowers in our suburban garden. I was stony broke throughout childhood, spending all my pocket money on plants from Perry's Hardy Plants Farm.

A 40-hour week of manual labour – plus evenings taken up with practical demonstrations, plant identification tests and projects – came as a bit of a surprise to a 16-year-old used to a modest school day, but the two-year certificate course at the RHS School of Horticulture, Wisley, has stood me in good stead ever since. My interest in daffodils was kindled during a scholarship year at Tresco Abbey Gardens, on the Isles of Scilly, where the scented, multi-headed tazettas are an important industry. It was a wrench to leave but, having decided on further horticultural training, I attended the three-year diploma course at the Royal Botanic Garden (RBG), Edinburgh. One of my favourite areas was the peat banks, where freckled shell-pink *Nomocharis* were coaxed into flower. I could not have imagined that 30 years on I would be strimming rushes on our very own, much wetter, peat bog.

After Edinburgh, I went into private service as Head Gardener of the original seven acres of Rosemoor – a post I had to relinquish when I married and moved away from North Devon. The ensuing 25 years were dominated by my husband's career: we lived near Wisley while Duncan was General Secretary of the National Council for the Conservation of Plants and Gardens; in London when he was Curator of the Chelsea Physic Garden; near Edinburgh when Head of Gardens for the National Trust for Scotland, and at Inverewe, where Duncan was Property Manager. For the first ten years, I found appropriate employment as best I could. Thankfully, the RHS offered me the post of International Daffodil Registrar.

The initial task was to transfer, long-hand, all 23 000 daffodil cultivar names from Moore's "Modern Method of Filing" (1950s?) on to index cards: this later formed the basis of the computerized *Daffodil Checklist* (1989). Earlier daffodil classifications had to be up-dated and the colour-coding system incorporated. Working with a horticultural classification system which has been evolving since 1908, has helped me understand present lily classification. There were later spells as Assistant Editor for the RHS and Head Gardener for London House for Overseas Graduates, before we moved to Scotland.

Over the next 15 years I looked after the family and made gardens, and developed our collection of pre-1930 daffodil cultivars. Collecting, cultivating and maintaining detailed records on a database is ongoing. An occasional stint in the RBG library invariably unearths illustrations (invaluable for the identification of cultivars) and further nuggets of useful information – as it turns out, ideal experience for lily registration work. Old daffodils have been identified for both National Trusts, private estates and individuals.

We have lived barely two years on the croft, where the majestic stems of *Cardiocrinum giganteum* are immense, although vulnerable to summer gales. To help us get to know the genus better, we intend to grow as wide a range of lilies here as possible, given the constraints of time (bringing rough pasture into cultivation is a gradual process), climate (very wet, very windy, but relatively mild), and soil (the raised-beach portion, derived from Torridonian sandstone, is stony, extremely acid, but surprisingly fertile).

Our predecessor, Vicki Matthews, who has postponed retirement in order to work tirelessly on the completion of the fourth edition of the *International Lily Register*, was full-time, being both lily and clematis registrar. When we asked the RHS whether we could submit a joint application to job-share, the Society kindly consented. It is immensely reassuring to have an in-house colleague who has decades of experience running an office. Although Duncan is principally the registrar for clematis, lilies generate more work, so he works on lilies too: for instance, he has written the lion's share of the lily descriptions for the 1st *Supplement* of the new *Register*; tends to deal with computer-related issues and ensures the smooth day-to-day running of our "office".

We value our registration work highly: it is not only our source of income, but enables us to keep a foot in the busy world which most people inhabit. Through working for the RHS we have reinvigorated old friendships and hope to forge new ones. We look forward to corresponding with lily and clematis enthusiasts. Twenty years ago, the daffodil registrar's office was a table in the far reaches of the stack room of the original Lindley Library, beneath a grimy window to which clung sooty remnants of war-time black-out tape, with views of dreary but imposing tower blocks. Today, I look towards the sweeping mountain-scape

of Wester Ross beyond an ever-changing Loch Ewe. As daffodil registrar, I was equipped with a redundant typewriter, boasting an especially long platen, from the RHS Accounts Department. During the intervening years, computers and internet connection have truly revolutionized international registration.

Although I don't have detailed knowledge of lilies, the principles of registration have held true over the decades and apply to all genera. To encourage a consistent approach to the naming of plant cultivars and Groups, International Cultivar Registration Authorities (ICRAs) apply the Articles and, wherever possible, the Recommendations, of *The International Code of Nomenclature for Cultivated Plants*. In the 1980s the *Code* ran to 32 pages; the current (seventh) edition has 123. Two decades ago, upholding the tenets of the Cultivated Plant Code for daffodils was a relatively straightforward job. In the world of the commercially important new lily it is quite a different task. An underlying principle of the *Code* is that names must be universally available and their use uninhibited. Hence an ICRA cannot exert any influence over trademarks, which are not strictly names and are certainly not freely available, nor over names granted Plant Breeders' Rights, which may be established according to provisions at variance to the *Code*. Such epithets, protected by legislation, are routinely used for new lilies and take precedence over synonyms and similar names registered by an ICRA. Challenges ahead include fostering greater co-operation with Plant Variety Offices and convincing potential registrants that international registration remains relevant and very worthwhile. I do hope I shall hear from you.

'Action' to 'Žonglér':

the Twenty-fourth Supplement to the International Lily Register

Wouldn't you like to know to which Division 'Dreamcatcher' belongs...or the colour of 'Boogie Woogie'...the poise of 'Beautiful Victoria', or, come to that, the shape of 'Cecil'? Descriptions of these lilies, and for all lily epithets registered between October 2004 and September 2005, appear in this most recent Supplement, which was published in spring 2007.

Copies of the 64-page, A5 booklet are available from RHS Enterprises Ltd, RHS Garden, Wisley, Woking, Surrey GU23 6QB, UK, at £5 each plus postage: £1 in the UK; £2 for Europe and £3 outwith Europe. I'm afraid payment by cheque (made out to RHS Enterprises Ltd), is only accepted in Pounds Sterling (GBP). Details of the price of multiple copies are available from the above address and by 'phoning 0845 260 4505. The e-mail address for ordering on-line is mailorder@rhs.org.uk.

It is also possible to distinguish 'Swansea' from 'Stafford' on-line, as Supplements 20 to 24 inclusive may be consulted using Adobe Acrobat Reader, by searching on plant registers. For those wishing to register 'Red Hot's successor, the registration form may be down-loaded from the RHS web site: www.rhs.org.uk, and is available from Mrs Kate Donald, International Lily Registrar, 16 Midtown of Inverasdale, Poolewe, Ross-shire IV22 2LW, UK; telephone 0044 (0)1445 781717; e-mail: lily@rhs.org.uk.

About the RHS Lily Group

www.rhslilygroup.org

The Lily Group is organised under the auspices of the Royal Horticultural Society in order to promote interest in lilies and related plants.

The principal benefits to members of the Group are:

- The **Seed List**. Members of the Group and others, at home and overseas, send their surplus seed from lily species and hybrids, other Liliaceae and many other garden plants and these are offered to members early each year. This distribution has become a major factor in increasing the availability of such plants.
- The **Bulb Auction**. Members' surplus bulbs of lilies and other plants are auctioned in October each year at different venues around the country.
- **Meetings and outings**. Meetings for lectures or discussions are held each year at venues around the country. Outings or week-ends are arranged each year for members to visit gardens of interest to lily enthusiasts.
- **Newsletters**. Three newsletters are distributed to members each year with short articles, correspondence and news of current events in the fields of interest of the Group.
- **Lilies and Related Plants**. Articles on plants, gardens and people associated with the Lily Group appear in a booklet which is published every two years.

Details of the current subscription and any of the above are available from the Group Secretary. See opposite the content page for a list of officers and committee members and key contact details.

- The **Lyttel Lily Cup** is awarded annually by the RHS Council, on the recommendation of the Lily Committee, to a 'person who has done good work in connection with lilies, nomocharis or fritillaries'.
- The **Lily Bowl** is awarded by the Lily Group for the most meritorious single exhibit in a July co-operative display of lilies at an RHS show.
- The **Paul Furse Cup**, first awarded in 1992, for the best fritillary or other plant related to lilies but not of the genus *Lilium* exhibit as part of a Lily Group Co-operative stand at an RHS show.
- The **Voelcker Cup** is awarded to a person in recognition of our international role in promoting lilies.

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