

BULBS

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Bulbs

The Bulletin of the International Bulb Society

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COVER PHOTO

Oxalis ‘Purple Heart’ by Sandy Leven



Truly an International issue this time, with articles from the United States, Scotland, Australia, New Zealand and South Africa. I would like to thank everyone for their response to my plea for more articles. I even have some in reserve, which is truly luxury! Many parts of the world have been battered by awful weather recently including my own city of Auckland, but somehow we seem to overcome these setbacks and our bulbs continue to bring us much pleasure.

Reading about them is a great way of relaxing and an article such as the one on Latvia and a visit to Janis Ruksan's nursery, by Sandy Leven, written in a truly evocative style, is almost guaranteed to kindle a desire to follow in his footsteps! Linked to this subject we have a book review of a recently published book by Janis, called "Buried Treasures", which is enthused over by Deborah Jordan. Other book reviews are of "Garden Bulbs for the South" by Scott Ogden reviewed by Mark Schusler and "Irises" by Claire Austin reviewed by Janet Matthews.

Graham Duncan revisits *Lachenalia sargeantii* which was reported flowering in 2005, thirty-three years after its flowers were last seen near Bredasdorp

in 1971. The accompanying pictures reveal a very desirable species, but it is obviously not going to be easy to cultivate and flower even when seeds do become available. Rob Hamilton takes us on a very hot outback safari through South Australia in a successful search for native *Crinum*s and Rachel and Rod Saunders, in the second part of their article on seed collection in South Africa, tell us what they have to do with all the seed they collect when they get them back home.

Last but not least, Jane Preston tells about her thriving nursery business called Bannockburn Floriculture in the deep south of the South Island of New Zealand. They specialise in the export of cut flowers of *Eremurus*, alliums and trilliums. Sadly we cannot grow the beautiful *Eremurus* in Auckland because we are just not cold enough.

Harold Koopowitz, well known to orchid and bulb fanciers, has asked me to reprint an invitation to IBS members and it appears on page 25. You may be surprised to read that there are fall-blooming narcissus, investigate them; though small, they are fascinating, and most are intensely fragrant.

Some Forum Highlights

From Dave Lehmler about the floatation method of seed germination:

Nothing special about my floatation method. Use a clean, clear 8-10oz drinking glass and fill about two thirds full with fresh rainwater. Float the seeds (*Hippeastrum*, *Zephyranthes/Cooperia*, *Sprekelia*) on the surface and cover the top of the water glass with Saran wrap (to keep out dust, spores, etc.). Then place the water glass on a southerly windowsill where it will receive direct sunlight during at least part of the day. Germination usually begins to occur within a week. The root like projection (I can't remember; is it the hypocotyl extension? Formerly called the radicle) will grow downward, and when it is circa 3/8 inch long,

you can transplant to a pot or wait to transplant until the first leaf begins to appear. When transplanting, use a toothpick to make a small hole at the soil surface in which to place the root like structure, but keep the seed flat at the surface.

In 2006, there were seeds offered of *Hippeastrum brasilianum* on the SX/BX; I acquired a packet, used this floatation technique, and now I have a pot of seedlings. I've used this floatation method for >15 years; I can't remember who first informed me about it. It's not foolproof as occasionally the seeds don't germinate and this is accompanied by fungus growth. I have never tried adding fungicide or antibiotics to the floatation rainwater, but I suspect that it may have merit.

Robert Jenkins said:

that he adds hydrogen peroxide (3.5%) to the water. It seems to help keep bacterial infection at bay and also keeps the seed afloat on the water's surface.

In reply to a further question from Jerry May he said – “I add about a tablespoon of the household hydrogen peroxide (3.5% solution) to a pint (16 oz.) of well water. I change the water every other day, if not daily. The oxygenating action of the H₂O₂ helps too, I think. I place the seeds across the top making sure there is only a single layer of seeds on the surface or less”.

Bill Warren observed and speculated:

Tony Palmer's damaged *Worsleya* bulb mirrors damaged hippeastrum bulbs that I have found to produce bulbils as the host bulb rotted from the locations that would have produced scapes. It is my belief that *Worsleya* contain embryonic scapes that would bloom much more often than they do, if we could find the procedure to get them to emerge. I believe that the same growing points in the bulbs between the layers produce both scapes and bulbil offsets as in *Hippeastrum*. Because of observations of *Hippeastrum* bulbs in Botanical Gardens last

year where the bulbs were planted with about half the bulb above soil line but still exhibited 3 and 2 flowers per scape (large flowered “garden” type) because of mulching with a heavy tightly compressed layer of commercial mulch which they use to seal weeds in the soil made the bulbs feel (?) they were up to their necks in the ground. There may be a clue to more blooming of *Worsleya* here, but I do not have mature plants yet to test. (Grow faster, faster!)

Tim Eck asked:

My *Clivia* fruit are turning red but the seed are still white. Should I wait for the seed to darken to harvest? Should they be planted immediately? Stratified? Scarified? Advice greatly appreciated.

Rachel Saunders replied:

Once the outer flesh of the *Clivia* seed has turned red, harvest the seed, clean the flesh off (the seed inside is white), and sow the seed on top of soil or leave it on damp paper in a warm place (covered with a transparent plastic lid. The seeds need warmth and light to germinate. Seeds need to be sown fresh.

Recently the forum has been given a boost with the return of ‘Topic of the Week’. We are indebted to Andy Cabe for taking on the running of this – it may seem easy but actually takes quite a lot of work to come up with a good balance of topics week after week. It is certainly effective in focusing people’s minds and has already encouraged ‘lurkers’ to join in. Andy is the Curator of Horticulture at Riverbanks Zoo and Garden in Columbia.

Well I think that is enough from me so I will leave you to enjoy the remainder of this issue and given the timing of its arrival in your letterboxes would like to take this opportunity to wish everyone, wherever you may be in the world, a very happy Christmas and peace and prosperity in 2008.



Crinum Outback Safari

by Robert Hamilton

From 18th to 21st of January 2007 the native *Crinum* habitats in outback South Australia and the Murray River Valley received significant rainfall mostly in the 50 to 75mm range. Outback South Australia has an annual average rainfall of between 125 and 200mm (5 to 8 inches) while the Murray River Valley or Riverland as it is known, gets an annual average of 250mm (10 inches). So these rains were certain to stimulate the *Crinum* species present in these areas to burst into growth and flower.

I arranged to meet Jim Lykos in Adelaide three weeks after the heavy downpours experienced over much of central and eastern South Australia. We travelled into the habitats where we expect to find native *Crinum* species in flower. Jim had travelled through the Flinders Ranges and the Torrens – Eyre salt lake regions and Murray River Valley 12 months earlier with Dave and Nancy Lehmillier. There had been very little rain before the 2006 exploration trip and only a few populations of *Crinum* were located by their dry leaves. We were sorry that on this occasion Dave wouldn't be able to accompany us as he was still recovering from an illness.

Our aims were to find the distribution of *Crinum luteolum* around the Southern Flinders, and locate populations of another yellow *Crinum* variant that grow around the watershed margins of Salt Lakes in more arid conditions further north. We had hoped that this would allow us to judge the range of variation and status of these yellow species and to identify their habitat requirements.

Similarly we wanted to examine the hexaploid white flowered, amber budded, Murray River *Crinum* along the length of its South Australia Riverland and lagoon distribution and also to see if there were any

other unrecognized variants growing along the Murray River.

I booked accommodation for our first night in the mining town of Andamooka. After telling the proprietors of our reason for visiting they promised to look out for flowers. True to their word I received a phone call 10 days before we were due to arrive saying the "Andamooka Lily" as they are locally known were in full bloom. With the temperature 40°C every day for the previous week it seemed unlikely that any flowers would remain when we arrived. Our hosts agreed to take some photographs while they were still in bloom.



Desert *Crinum* at Andamooka , South Australia. Typical habitat.

I arrived by aeroplane in Adelaide at 12.45pm on Thursday 16th February to be met shortly after by Jim, who had driven from the Blue Mountains in NSW, which is a two day trip by car. The plan for the day was to travel the 580 km to Andamooka. We headed straight for Port Augusta. After 4 hours of travelling we took a short detour at Stirling North into Pichi Richi Pass to view the well known locality of *Crinum luteolum*. The severity of their habitat hit us as we

stepped out of Jim's air conditioned vehicle onto the hot stony arid ground that supported poor growing low salt bush. The nearby Port Augusta recorded a maximum temperature of 39°C on this day. There had been a very good flowering. There were still occasional flowers where plants were growing in the partial shade of the salt bushes but they were not at their best and some bulb leaves had already turned to dormancy. There was abundant seed production although it was not fully mature. We collected some seed and examined a sample of inflorescences for floral count, and measuring the length of the pedicles, scape, tepal tube and fruiting beak. We were to make the same measurements with most of the populations of crinums that we encountered on this trip as a basis for comparison.

undoubtedly measured in the tens and hundreds of square kilometres. We started seeing emus grazing near the road and, sadly, occasionally as road kill.

Near a district called Macleay which corresponded to the turnoff to the homestead of Oakden Hills station, we spotted a large population of *Crinum* in fruit. They were growing in red sand at a site where a temporary wash obviously occurs after rainfall. There were no flowers left to be seen but seed was abundant and more mature than the *Crinum luteolum* we had seen. There were some subtle differences in the appearance of these *Crinum* which suggested they were likely to differ from *Crinum luteolum* – and perhaps they were the “yellow desert *Crinum*”. My GPS told us that this was about 119km, “as the crow flies”, north west of the *Crinum luteolum* site we had visited and we were in a region of small salt lakes south west of Lake Torrens.

We continued north, ever alert, hoping to spot more *Crinum* populations in dwindling light and had to phone ahead to our Motel in Andamooka as it was clear, because of our delay exploring the unexpected site, that we wouldn't arrive until after dark. We arrived at 9pm. There were no street lights, but thankfully a couple of people drinking outside the local pub were able to point us to the motel which was almost totally in darkness!

Desert *Crinum* at Andamooka, South Australia. Typical habitat.

***Crinum luteolum* habitat
Pichi Richi Pass, South Australia**

We continued on to Port Augusta and headed north up the Stuart Highway. We were now in real desert country. The predominant plants were small “salt bushes” and occasional larger acacias and shrubs that grew along the temporary creek beds we passed. Bare patches of sand and low dunes were now evident. We were now in areas of vast grazing properties. There were no fences just cattle grids on the road tens of kilometers apart marking the change of property or paddock which were



At breakfast the next morning we were presented with a CD with about 80 photos of the desert *Crinum* in flower. Jim had his laptop so we had a quick look at the magnificent photos before heading out to explore the area. It was already very hot at 8am – probably well over 30°C. We found the first population about a kilometre north of the town in a dry creek bed. There were numerous bulbs to be found in growth and an occasional flower. There was heavy seed production. Once again it was a sandy habitat, with saltbush and occasional larger shrubs near the now dry creek bed.

**Desert *Crinum*,
Andamooka waterhole.**



Andamooka waterhole.



We then headed further north and found a population around a waterhole which to our delight had many crinums coming into full bloom. They were growing in sand with a heavy clay component which was still moist and presumably they had their flowering delayed by being under water for some time. Close to the edge of the waterhole where flooding would have receded last, some plants were still in early bud. There were up to 6 open flowers on each inflorescence and colours ranged from bright to pale yellow, to white with a yellow centre which was variable in size and an occasional plant appeared almost completely white. We moved on and found a third site near the local airstrip – this appeared drier with little flowering. Some plants had leaves dried off or perhaps not even come out of dormancy. There was also evidence of rabbits feeding on the leaves. This site was at a higher elevation than the other two and supported large sand dunes with dry slopes with lush growing plants in the basins between the dunes.

The town was deserted as no opal mining is done in the heat of summer – it was 39°C the day we arrived and 40°C the day we explored the town surrounds. 40°C temperatures for days on end are common. It is as barren a place as you can imagine. The landscape was covered with myriads of steep pointed mounds of coloured sands which had been often hand excavated during the opal mining process over the past 80 years. The high mounds formed a colourful collage across the horizon.

After leaving Andamooka we headed north. At the mining site of the Olympic Dam mine we joined the Borefield Road. This road is unsealed and a huge sign at its origin had indicators about whether it and other roads further north were open. Basically when they get significant rain as had happened a few weeks before our visit, the roads are closed until they dry out, to prevent the clay based surface from being deeply rutted by motor vehicles. On the way north we passed an Arid Recovery site which had been fenced to eliminate feral cats. After this process is complete, endangered marsupial species will be reintroduced into the site. We drove past 10-12 km of high, well constructed, fine wired fence with reversed overlap above, indicating that the this recovery area must be huge.



Desert *Crinum*, Gregory Creek.
The cracked surface shows there was standing water delaying flowering.
Photo taken around midday on a 42C day.

After about 100km of unsealed road we arrived at Gregory Creek. This was a series of now dry shallow channels several hundred metres wide. There were abundant *Crinum* here growing on the higher sandy banks amongst the channels. Most of the desert yellow crinums were carrying mature seed capsules on every flower. Occasional single flowers were still open and we found one with 5 open flowers. Later when looking at the photograph of this plant, the ground around this *Crinum* had a cracked surface indicating



Desert *Crinum*,
Andamooka waterhole.

a silt deposit and that it had been in standing water, therefore delaying flowering in a similar way as we saw at the Andamooka waterhole. It was 42C here, on the day we visited and no doubt several degrees more in the full sun yet these flowers showed no sign of wilting. Gregory Creek has a very large population of the yellow *Crinum* species and was quite green in patches from the growth of small annual grasses and desert annuals. Here we had our first real introduction to the local desert flies which absolutely covered our faces. Even insect repellent had no impression on their tenacity to fly into our faces and cling.



Desert *Crinum* habitat, Gregory Creek, South Australia. Typical sandy channel from the numerous ephemeral creeks at this site.

We continued north and reached the Oodnadatta track, the original road connecting Adelaide to Central Australia. We headed west on the Oodnadatta track to visit Coward Springs some 60km away. This is the site of a deserted railway station with an artesian spring that supports a series of ponds and winter camping area for bird watchers. However all the ponds had long dried out in the summer heat and showed no sign of its usually rich bird life and *Crinum* habitat. The heat and small flies were temporarily overcome by washing our face and hands in a permanent natural flowing spa. We then headed east towards Maree. The 120km was covered fairly rapidly on the unsealed, but smooth roads, but we had to be ever alert for the small washed out areas on the road at the site of temporary creeks from the recent rain. Maree, which derived its water supply from a mound artesian spring, was once a thriving town with a population of 4000 in 1981. It was initially the rail

head from which camel trains took goods into small settlements in the arid Australian interior, and from which cattle and sheep were freighted to Adelaide. After the railway to central Australia was removed to a new line the town declined to a population of 50 or so. It was 3pm when we arrived at Maree and we were ready for lunch but found it difficult to find anything suitable to eat at the small roadhouse. We settled for a milkshake and a “fresh” pasty which literally took ages to prepare as the roadhouse owners seem to have forgotten what to do and where to find the ingredients.

We then headed north to the Clayton River on the Birdsville track. This unsealed road is about 600km long and connects to the isolated town of Birdsville situated in the southwest corner of Queensland. We had read reports of yellow flowered *Crinum* growing at the Clayton River, so we were hopeful that we would locate this colony to see if the desert *Crinum* remained consistent from a different Salt Lake catchment region. Well there was no river but quite wide and dry water channels. We had no luck in finding *Crinum* as it appears this area didn't receive significant rain and we would need to walk some kilometers along the creek line to a series of water holes. However, the ferocity of the heat in the open sun made only short treks possible. We saw no other vehicles on the Birdsville track and for the whole second day we travelled about 600km meeting only about half a dozen other vehicles. A group of wild donkeys provided some interest on the trip back to Maree.

After reaching Maree we headed south for Leigh Creek in the north of the Flinders Ranges where we intended to spend our second night. At Farina Creek about 20km north of Lyndhurst we spotted the yellow *Crinum* again spread among some quite lush grasses for a few hundred metres. These bulbs were in an advanced stage of seed production with no evidence of flowers. However it seems likely that the *Crinum* at Oakden Hills (Macleay), Andamooka, Gregory Creek and Farina Creek are all the same desert species.

We headed south from Leigh Creek early the next morning for Quorn and a second look at the Pichi Richi Pass population. The 200km journey was punctuated by stops to search the many creek and floodways, as well as examining some of the historic ruins along the old train line, but no *Crinum* were located on this morning. After just 2 days of extreme heat the seed of *Crinum luteolum* at Pichi Richi Pass was notably more mature. That ended our circuit of Lake Tor-

rens which was undoubtedly involved with other salt lakes in the distribution of the desert *Crinum* thousands of years ago in eras of a much wetter climate.

With a day and a half to spare before I had to return home we decided to head to the Murray Valley to see in flower *Crinum* aff. *flaccidum* (soon to be published as a new species) in those populations we knew of, and search for other populations to gain a better understanding of their distribution and habitat requirements. It was our aim to travel to the closest population at Blanchetown, by a route which took us through a number of small towns – Wilmington, Orororo, Peterborough, Burra and Morgan. We had read a report of an old collection of *Crinum* (*luteolum?*) at Orororo so we drove around to locate suitable environments around the town. We travelled to a lookout above the town in the water catchment reserve and

were surprised to find a population of *Calostemma* on a steep and very dry side of a hill. A few fading flowers remained and it appeared to be mainly a white flower with pink tips. Exploration of part of the creek line was fruitless and we didn't have the time to explore the steep sided hills and gullies of this reserve. The rest of the trip was relatively uneventful. At one stage we passed two sizable hills covered in grass trees but didn't see any more of this genus in our trip.

To get to Blanchetown we had to cross the Murray River by vehicular ferry at Morgan. Soon after leaving the ferry we found a large dispersed population of the white flowered *Crinum* aff. *flaccidum* with an occasional flower still evident. Some were very vigorous with 60cm flower scapes and some very large clumps suggested bulb division by splitting like *C. pedunculatum*. Blanchetown supported a very large population of this *Crinum* aff. *flaccidum* on a sand dune bank near exposed limestone cliffs bordering

one side of the river. Flowering was over and seed formation was well advanced. Light was fading so we continued on our way to Waikerie where we spent our third night. We arrived at 8pm having covered about 700 km over about 12 hours travelling.

We had heard of some *Crinum* populations around Waikerie but it seemed that a small boat was needed to get to them. Early the next morning we decided to have a look along the reserve foreshore to the west of the town where there were small sand dunes near the river. Deep grey sands seemed to be the preferred habitat of the Murray River *Crinum*. We soon found a small population not far from the river which was in between flowering and seed production. It was of interest when I returned home and reviewed the GPS reading I had taken at the site, to find that it was 13 metres below sea level.



Crinum flaccidum at Waikerie, South Australia with the Murray River in the background.

We then continued east to examine some *Crinum* sites that we knew of from Jim and Dave's 2006 exploration. At Berri the *Crinum* aff. *flaccidum* were not in great condition, already going into decline with what appeared to be poor flowering and seed production. The habitat looked very dry despite the recent rain and may not have received its fair share of rain a month earlier. There was a bonus at this site with reddish/purple flowered *Calostemma* growing in the same area and seed ready to harvest. It is interesting that two bulbous plants growing in the same habitat have such different growth patterns. *Calostemma*

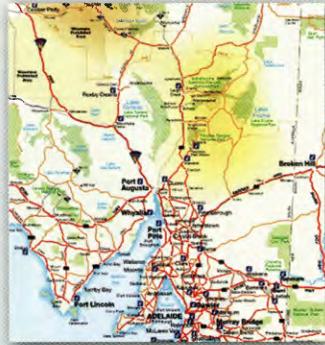
flowers after the rain then remains in leaf through winter regardless of frost. *Crinum* produce leaves and flowers together after summer rain into autumn until conditions become too dry and winter also brings on dormancy.

From Berri we headed south on a loop of road to pass through the riverside town of Loxton then head north again to approach the small town of Moorook where we knew of a very small population of *Crinum* aff. *flaccidum*. The river is very much branched in this area giving rise to several very large lagoons. Yatco lagoon is east of the road on the approach to Moorook. About 1.5km before we reached the known population we spotted several *Crinum* growing on the edge of a citrus plantation, surely remnants of a larger population which had been destroyed by cultivation. We continued on and found another group about 800m before the known site and subsequently another 200m after the site. *Crinum* were on both sides of the road in one of these situations. It was surely a very large population before the road had been constructed through its range. There appeared to have been a reasonable flowering here, with plants in good condition and seed production in its early stages.

From there it was back to Blanchetown, and then we headed south towards Mannum gradually making our way closer to Adelaide. We chose to drive along the river road on the way to Swan Reach where we found 2 colonies of *Crinum* aff. *flaccidum* about 50 and 60 metres above sea level and a long way from the river, but growing in the typical sand bank situation it seems to prefer. The second colony was in a fairly level paddock which had clearly been cultivated and harvested in the past year, with the bulbs obviously too deep to be damaged. At the latter site some bulbs were in a much earlier phase of flowering so we were able to get some pictures. It was somewhat puzzling as to why there had been this delay. Time was short in Mannum and we didn't locate any *Crinum*. We did visit the waterfall site several kilometres from the town and found *Calostemma* in seed but the area had not recovered from the prolonged drought. From there it was back to Adelaide. My flight left Adelaide at 6.30pm but I had a long

transit time in Melbourne so I finally arrived home at 12.15am Monday morning. Jim had a day or two of rest and recovery in Adelaide visiting his family before tackling the 2 days driving to his home.

For a *Crinum* enthusiast it was an exciting 4 days covering 2500km of the harsh sparsely populated South Australian outback and the more populated but equally interesting semi arid Murray River valley. I can hardly wait until there is again heavy summer rainfall in South Australia to further explore the distribution of *C.luteolum*, and its similarities and differences with the Salt Lake/desert yellow *Crinum*. There are also crinums mentioned in the literature with flowers of mythical proportion and are there perhaps miniature forms on the coastal limestone soils yet to be found?



Robert Hamilton lives in Tasmania the island state of Australia at a latitude of 43° South.

I have had a long interest in bulbs, starting with those known to be happy in cold climates and gradually over 25 years expanding to include those from warmer climates, which are not necessarily easy to grow in my cold climate. I have had a concurrent interest in orchids particularly those of the Pleurothallid family and while now retired, I was once an accredited judge with the Australian Orchid Council.

I graduated in medicine in 1976 and have worked as a general practitioner since 1980. I am married to Vicki and share a hectic lifestyle with children Stephanie (15), Alexander (7), Katie and James (both 5).

IBS members who made cash donations to the various IBS funds during calendar year 2006:

**Hajime Amagai • Rozann Brittain • David Ehrlich
Kirby Fong • Herb Kelly Jr. • Nickolas Nickou**

Latvia

WHERE THE BULBS COME FROM!

by Sandy Leven

Latvia sits at the south eastern corner of the Baltic Sea with Estonia to the north, Russia to the east and Lithuania and Belarus to the south. It has been part of the European Union since 2004. Before then it was part of the Soviet Union. Latvia traded with the rest of Europe, including Scotland until World War II. It has a proud and complicated history. Geographically, Latvia sits at the centre of Europe. This comes as a surprise until you look at a map of Europe. Having lived in Scotland all my life, I have an old fashioned image of a Europe which stopped at the old 'Iron Curtain'. The EU now stretches from the Atlantic to the Black Sea and from the Mediterranean to the Arctic Ocean. There is a lot of Europe to the North and West of Latvia and truly Latvia is the centre of Europe – look at a map if you don't believe me! Until recently few Westerners visited the Baltic States. Now we have daily flights from Scotland to Riga, the Latvian capital.

History

Riga, the capital, is one of the ancient Hanseatic cities of the Baltic and Northern Germany.

Much restoration work has been completed in Riga and the buildings here are beautiful once more. The old town of Riga is compact and sits on the River Daugava. The city has many fine parks. The architecture is similar to that in Denmark, Sweden or Northern Germany. You would be hard pressed to find a more beautiful city, as long as you ignore the inevitable legacy of Russian rule, the apartment blocks at the edge of the city. Many traditional private houses, many apparently built of wood, remain in the suburbs and these are being restored. Riga is a fine place for a holiday base as it has traditional hotels as well as the 'modern' chain hotels. We however were not going to be living in Riga. We were driven one hour to the East to Cesis. The road was lined by woodlands of mixed deciduous and coniferous trees on both sides. Occasionally the forest opened up into rolling farmland.

Since 1940 the Baltic States had been occupied first by Soviet then by German and again in 1944 by Soviet troops. Only in August 1991 was the Independent Republic of Latvia re-declared. Latvians of my age have seen great changes during their lifetimes. They have triumphed over occupation and repression and are now free.

I have dwelt more on the past than I might have but a country is defined by its history. Just think of Scotland with its castles and mountains. Ours is a country in which we regale our visitors with tales of kings and heroes long dead. Latvians like Scots were and are a nation of traders and travellers. Both are small countries. Both are proud of their traditions and

national identity.

In Soviet times Latvia was the 'Holland' of the USSR. Latvia grew millions of tulips and daffodils for sale in Russia. Riga is only 8 hours drive from St. Petersburg (formerly Leningrad). It has road and rail links to Moscow, which are probably not used as much nowadays as they were before.

Janis Ruksans is a doctor of Biology and Horticulture and runs a bulb nursery in Rozula, Latvia. He has travelled widely in the former Soviet Union botanising and photographing bulbous plants in the Central Asian Mountains. In Soviet times he grew huge numbers of the daffodils and tulips for the Russian market and his expertise with these led to his interest in other bulbs. He was editor of the Latvian flower magazine 'Darzs un Drava'. He played a prominent part in the politics of Latvia in the final Soviet era and has been honoured by the Latvian Government for his contribution to the freedom movement.

He now grows an unrivalled range of bulbous plants in the nursery and has selected many fine forms of *Crocus*, *Tulipa* and *Corydalis*, often from his own collections. Since conditions in his own nursery are so extreme his customers know they are buying very hardy plants. His annual catalogue is packed with photographs, cultural advice and botanical notes. Janis lectures on bulbous plants in the UK, USA and throughout Europe.

Perversely it was probably because of Russian occupation and Latvia's membership of the USSR that Janis Ruksans was able to travel to parts of the former Soviet empire which have for years been out of bounds to Western visitors. Along with his friends he



Janis Ruskans on the right with Sandy Leven

has botanised in the Southern former Soviet Republics. He was able to collect and introduce new plants and good forms of known species. Because he is an expert grower, these introductions have thrived and are now offered to us to grow in our gardens.

I first heard Janis lecture at the Alpine Garden Society, Birmingham Bulb Day several years ago. I subsequently invited him to give two lectures to our SRGC Discussion Weekend when it was held at Stirling. After Birmingham, I sent for his plant catalogue from which I chose lots of treasures of my own. The bulbs arrived in superb condition, individually packed and labelled. This initial contact has led to friendship and visits. Coming from a trading nation, it should be no surprise to find that Janis is also a trader. In his case trade is in rare bulbs, the majority of which derive from his own introductions, breeding and selecting. Janis is a plantsman. He is a good cultivator and recognises a good plant when he sees one. Janis is a businessman. He set up bank accounts in the UK and Holland to make it easy for overseas growers to pay for his bulbs, so it is no surprise to find that one of Europe's foremost bulb growers sells to enthusiasts all over the world.

As I said, many of Janis' plants are from his own collections in the mountains in the southern former Russian Republics. It is amazing how well plants from these areas grow in Latvia, where they are quite close to the sea and that they also grow well in Scotland, although here I am guilty of growing too many in pots for fear of them dying outside. Janis is much more

sanguine. He grows the bulk of his outside expecting them to survive but if they don't, he accepts the fact.

Anticipation

Late in 2004 word filtered out of the possibility of a visit to Janis Ruskans' plant nursery at the end of April 2005. I was excited by the chance of going, and went on the trip with several friends from the Scottish Rock Garden Club and the Alpine Garden Society. Fred Hunt and I travelled with KLM via Amsterdam. Others went via London Heathrow. We met up with the rest of our party at Riga airport where we were welcomed by Janis and his wife Guna.

This was the start of an unforgettable weekend of plants, bulbs, history, architecture, culture, education, lectures, superb food, fine beer, hospitality and friendship. We were treated as family by Janis and his family and friends. Our base was the small city of Cesis which lies 1 hour east of Riga. We stayed in the small Hotel Katrina in Cesis. To my great joy and relief it had been completely renovated 3 years previously and all rooms had en-suite facilities. Our transport was a 20-seater bus and we had our own chauffeur (driver) for the weekend. Janis laid on a full programme, the social highlight of which he kept secret till Sunday evening.

Cesis

The historic city of Cesis is much smaller than Riga. It feels more like a big village or small town. It describes itself as 'the town of medieval romance' and celebrated its 800th anniversary in 2006. Cesis castle is the biggest in Latvia and dates from the 13th Century. It was the stronghold of The Knights of the Livonian Order. Unfortunately it is a ruin and has been since Ivan the Terrible laid siege to it in September 1577. It is a tribute to its builders that so much of it still remains after all this time. A huge statue of Lenin lies in a big wooden box in the castle grounds. It used to dominate



Cesis Castle

one of the town squares but has been replaced by the restored Victory Monument which was demolished on the order of the Soviet authorities in 1951. It was only restored in November 1998. Keeping Lenin just out of site is probably a good idea. He no longer dominates the town declaring Russian rule, but while he can be visited lying in his big box, he is there to remind everyone, Latvian or stranger, of the suffering wrought on the country.

taste it on several occasions to confirm its quality. On the Saturday evening we visited a Beerkeller where we took part in a buy two get one free promotion for the beer. The extra bottles caused much confusion as we had to take them into consideration when ordering our next rounds. We always seemed to get too much beer! After paying for one round I was given a packet of chewing gum as part of my change because the bar had run out of some coins!

While the staff went for supplies to replenish the bar, we Scots went out to explore the town. The streets were mainly cobbled and many houses looked like they must have looked in 1940. The Russians didn't do much restoration! Some buildings looked very drab and sad. Many houses are being restored and in a few years the town may be completely renewed. There is much to see and admire. The town is dominated by the 80 metre high tower and steeple of St John's Church, consecrated in 1284, 30 years before the battle of Bannockburn.



View of Cesis from our hotel room

We stayed in the Hotel Katrina in the town centre. It is an old building, restored and modernised in 2003. All rooms had en-suite facilities and the beds were comfortable. I was delighted to find that the electricity sockets were standard European style and that my adaptor fitted. I was able to charge the batteries for my digital camera. The staff could not have been friendlier. English is taught in schools and just as we were leaving a party of children came to try out their English on us. I think our Scots accents confused them! Menus and information boards are written in Latvian and English and sometimes Russian as well. All the staff spoke some English. The food was good and well prepared. On our first evening in Cesis while we ate our first fine meal, we managed to consume all the beer in the hotel! I had never been party to drinking a bar dry before! Like good tourists we drank the local beer, the famed *Cesu alus*, claimed to be the oldest brew in Northern Europe. We felt obliged to

The first plant I noticed was a small *Scilla sibirica* just beside the hotel. Close to it was a solitary double snowdrop. I think these were growing in what had been a garden, whose house had long since disappeared and they were not truly wild. The stone here is dolomitic limestone and it has been used in many of the buildings. In the grounds of Cesis Castle and on steep banks under lime trees we were delighted and I must admit to being surprised to find swathes of *Eranthis haemalis*, *Corydalis solida*, *Anemone ranunculoides* and tiny *Gagea minima*, appropriately nick-named 'least Gagea'. I had never seen so many 'wild' *Corydalis* and the *Gagea* was new to me. The *Corydalis* were uniformly a pale bluish purple but were a foretaste of finer things to come. In the daylight we saw that the colour varied from quite blue to pink. The *Anemone* had small rich yellow flowers and grew individually and in clumps. I had seen yellow clumps growing beside the main road as we drove to Cesis and once I saw



Marked seedlings of *Crocus*

the *Anemone ranunculoides* I realised what the clumps were. The *Gagea*, as its name infers has small yellow flowers. They are grouped in three or four on a loose umbel (if this is the correct name) beneath which are two opposite, stem leaves. It has a single basal leaf. By itself it is not worth crossing the ocean for but there were hundreds of them, lit up by the evening sun and when seen with the other yellow flowers, the effect was magical.

On our way back to the hotel we passed the Russian Orthodox Church of the Epiphany of Christ, a beautiful small white Byzantine building with two domes, built in 1842. The sun tinged the dolomitic limestone walls a soft pink colour. It looked as if it had just dropped from the film *Dr Zhivago*. For religious completeness I will tell you that in Cesis there is also the Roman Catholic Church of Christ the King. It has a wooden spire and a maroon roof and dates from 1928, by which time there were enough Roman Catholics in Cesis to merit their own church.

Guna gave us guided tour of the town and castle on Saturday morning. The lawns in the castle grounds were studded with pale purple *Corydalis solida* on which the dew sparkled in the bright morning light. Although it was the end of April the trees were still bare and plenty of light reached the emerging *Corydalis* flowers. Presumably, the flowers have seeded and the foliage died back before the grass is cut. Daumans Kalnins is a jewellery smith and applied artist. He has researched and studied the archaeology of Latvian jewellery and ornaments and he casts replicas to sell to visitors. He demonstrated his craft and showed us many examples. Most of us bought one

or more brooches or trinkets to assuage the guilt of travelling without spouse! All of us knew more about Latvia and its history than ever we expected. Janis thought it was now time to get to the plants and sent the bus to collect us from the castle. The journey to his nursery at Rozula took us along the River Gauja valley and out into the countryside.

Nursery

Janis Ruksans' bulb nursery covers several acres of undulating land, with its own pond and woodland. He has three big high poly tunnels and a huge packing shed beside a lovely modernised house. When we were there, it was warm, still, and the sun was shining. Spring was in the air but during winter Janis told us that frost can penetrate more than 1.6m into the ground, hence the poly tunnels to give a little protection to some fritillarias, iris and selected tulips. All the corydalis, which were the plants I most wanted to see were planted outside in rows like potatoes. Over winter they are covered with a thick layer of peat for protection. True to form our visit started with our choice of home made apple juice, coffee and biscuits. Janis and his friend Dr Arnis Seisums then delivered two lectures. Janis, also a Dr of Biology, chose 'CROCUS' as his subject as he felt we had missed seeing many of them as they flowered earlier in the year. His catalogue lists 78 different species and forms of *Crocus*. He grows many more than that as not all are offered each year. Arnis talked on 'JUNO IRISES' many of which he grows superbly in his garden in Riga. We would visit them the next day. Both Arnis and Janis have botanised in Southern 'former USSR'.

Lunch followed and again we were treated to a



Corydalis solida rows

delicious selection of cold meats and salmon with wine and apple juice. As they say 'it was just like being at your Auntie's'. After lunch we were free to wander wherever we wanted through the nursery. It is meticulously tidy and organised. The various aspects allow him to choose the ideal situation for any bulb, from Poly tunnel cover, south facing or north facing depending on how frost resistant the flowers are. Janis guided us through the different places and smiled as we enthused over the wonderful bulbs. He is a very modest man but one who obviously knows more than most about his plants. Everything is labelled, though the labels are buried and always at the same place beside the bulbs so that he can quickly find any name. When he lifts the bulbs he is meticulous in taking only those in the rows and not errant seedlings. I get the feeling that he rotates his crops from time to time because one empty area had lots of different single *Corydalis solida* scattered around.

As soon as we left the bus we spied some pink

flowers near a house gable and being typical rock gardeners, we wandered away from the treasure filled poly tunnels to see what was growing in this north facing bed. To our delight the pink flowers were *Erythronium sibiricum* and they had huge flowers with fully reflexed petals. Beside them were rows of the white from of *E. sibiricum* named 'Altai Snow'.

The first plants we looked at in the tunnels were a series of fritillarias. I am used to seeing special fritillarias growing in pots and was interested to see them thriving here in raised beds. These were edged with board anchored with angle iron to give a planting depth of 20cm above ground level. The compost mixture looked to be very open with a lot of peat and sand in the mix. The bulbs were planted quite deeply. The tunnel was divided by a central pathway and further subdivided into side beds separated by access paths. It was possible to see everything without stepping on the beds. Water, pumped from the wee loch on the nursery, is delivered to the plants via trickle pipes laid on the surface, spaced about 25cm apart.

Many frits were past but some we could admire were fine forms of *F. whittallii* from a collection made in Akseki in Southern Turkey and what I took to be *F. nigra*. I think we all stopped to admire a large clump of *F. verticillata* with large white greenish tinged flowers. This



Erythronium sibiricum



Erythronium sibiricum 'Altai Snow'



Fritillaria whittallii

was the clone called 'Kara-Sumbe'. Kara-Sumbe is a valley in the southern Altai Mountains in Kazakhstan. We had not seen the last of the fritillarias as many more are grown outside in 'the field'. Next to the frits was an anemone which I did not recognise. Mind you there was nothing unusual about my finding a plant new to me or whose name I had forgotten. I felt better when I realised that Fred Hunt, Chris Brickell and

Joy Bishop also found plants new to them. This first unknown was a yellow flowered *Anemone eranthoides*, so named presumably because of the red reverse to the petals. The amount of red seemed to vary and the flowers resembled tiny tulips before they opened and they had nice, very divided leaves.

Close by, was a fascinating bed of *Muscari muscarima*. This is a fine plant with strong stems supporting a large heavy head of pale cream or muted grey-blue flowers. There are probably about 50 tiny flowers on each stem and every one has a puckered mouth. The mouth colour seems to be pale blue on unopened flowers and changes to brown on the more mature flowers. This changes the appearance of the flowers as they age and makes clumps of variously aged flowers interesting. I particularly liked the clones marked 'Creamy White' and 'Honaz Dag', both with cream flowers but the latter started smoky grey. Another fine form bore the name of Rod Leeds, Chairman of the Joint Rock Garden Plant committee. Who would have thought of waxing lyrical about muscaris?



Anemone eranthoides

Muscari muscarima
'Honaz Dag'

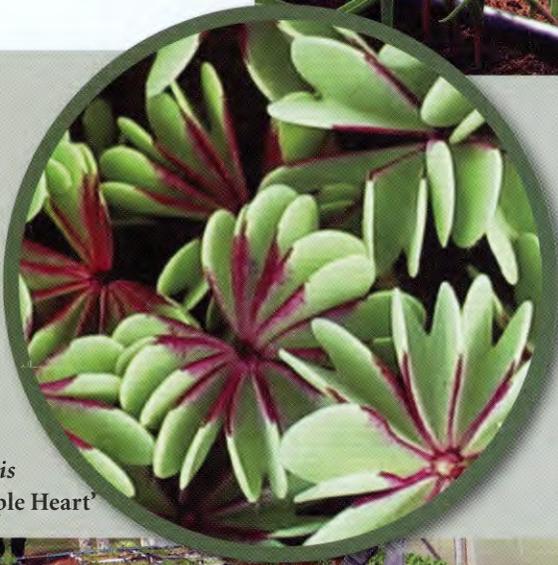
Muscari muscarima ambrosiacum



'Purple Heart' is the name given to a particularly fine foliaged form of *Oxalis adenophylla*. It is more dwarf than the usual form of *O. adenophylla* and has an exquisite purple base to each glaucous leaf giving each a 'purple heart'. I fancy a show exhibit of *Oxalis* 'Purple Heart' and *Trillium* 'Purple



Tulipa aucheriana



Oxalis
'Purple Heart'

Heart' would be interesting!

Janis raises untold numbers of seedlings and has his own technique. Where we might sow small amounts in pots, or sow larger amounts in polystyrene boxes, he uses the deep plastic Dutch bulb boxes. The box is lined with black polythene and filled with compost. Boxes are lined out in a poly tunnel. Janis says one advantage is that the boxes being uniform in size are interchangeable so that he can move them around when necessary with a major re-shuffling of the entire tunnel. The seedling bulbs can stay in their box until they are big enough to plant out. They are less likely to suffer frost damage as they can go deep down.

The next tunnel was much more colourful as it was devoted to tulips and irises. Across the width of the tunnel were 10 or 12 rows, raised up like potato drills. Dark, peat rich soil



Seedling boxes



Tulipa humilis albo-caerulea

suites these treasures. Janis uses a lot of peat (because there is a lot of peat in Latvia and Russia) to protect the bulbs from the vicious frosts. Remember winter lasts a lot longer in Latvia! Janis offers nearly 50 different tulips for sale. He had a breeding programme in the 1970's using *T. vvedenskyi*. They are colourful plants with big flowers on stocky stems. One of my all time favourite flowers is the blue centred tulip, *Tulipa humilis albo-caerulea*. This is often seen at shows but a row of them in full flower was special! As well as the combination of white petals and dark blue basal blotch, the flowers have jet black anthers and a pink stigma. A truly fabulous bulb.

I think of Juno irises as difficult plants. The secret to success in growing them seems to be to plant them in a poly tunnel in Latvia. Janis had them lined out like leeks in the same type of beds as he used for the tulips. He grows an enormous range of species and types, only some of which I recognised. One fine row was of *Iris graeberiana* 'Yellow Fall' which won a Forrest medal for Cyril Lafong at an SRGC Stirling show a few years ago. These plants would have to be entered for a class of '1 Row iris distinct'! Juno *Iris* species flower over quite a long period and we saw only some of them. Another row was of *Iris nusariensis* with which Lionel Clarkson won a Forrest medal in 2005 at Blackpool. I mention these successes to show that these fabulous iris can be grown successfully here at home.



Iris graeberiana
'Yellow Fall'



Seedling *Corydalis* rows

A Rainbow of Corydalis

When we left the last tunnel and turned to look at the beds outside we could hardly believe our eyes. Row upon row of brightly coloured *Corydalis solida* forms resembled a rainbow which had fallen to the ground. You felt like taking pictures here there and everywhere. Closer examination showed that the varieties of *C. solida* were kept together in their own bit of row and that each was identified with a buried label. Janis lifts them in summer, grades them, sells some and then replants them in autumn. During winter the rows are covered with a very thick layer of peat. Still they must be very hardy because the frost can penetrate 1.3m into the ground. I think here in Scotland frost

penetration is reckoned to be about 75 cm (20 inches). As the labels were buried it was difficult to know which variety was which. Janis pointed out some of his favourites and we asked about all the others he did not mention! With the *Corydalis solida* forms Janis has a continually evolving breeding and selection programme. He raises lots of seedlings every year and selects special plants to grow on. Susan Band and I really liked some of the new bicoloured red and pink flowered forms. You could choose between red flowers with white lips or white flowers with red.

In his recent list Janis has given names from the Lord of Rings to his best new plants. You would have to get both 'Frodo', white with purple lips, and 'Gandalf', white with a



Corydalis marshalliana

blue rim. 'Falls of Nirodel' he says is "slightly orange toned, reddish pink spur and almost pure white lower and upper petals". It sounds unique. 'Mordorland' appropriately is one his darkest *Corydalis*. In my first order I asked for a mixed lot of 'Penza Strain' corms and received corydalis in several shades of pinky lilac but amongst them was a white seedling. The Penza bulbs have the advantage of being cheap, so it is worth asking for some if you order. We were shown the new 'Penza Strain' seedlings and some looked very fine. Imagine if you ordered 10 and got 10 different colours! *Corydalis solida* flowers in Scotland in early spring. There are usually large numbers of them at the Blackpool or Edinburgh shows. When you see them, you will realise just what terrific value they give. All these colours and combinations have been arrived at by cross breeding and selecting plants in cultivation. Many would look out of place growing wild where the muted colours seem more appropriate but as a garden or pot grown plant for early spring flowering they are hard to beat. Only *Crocus* comes close to them for variety and combination of flower colour

Curiosity was the only thing which dragged me away from the rows of fabulous *Corydalis*. As the nursery covers several fields, exploration required a bit of walking. Outside I found long rows of *Fritillaria eduardii*, *F. raddeana* and several different *F. imperialis*. These were literally growing in rows in a field and you never saw finer specimens. In another area was a fine clone of *F. aurea* with large egg sized golden flowers. Close by and slightly damaged by a frost were



Corydalis solida





Fritillaria aurea



Fritillaria latifolia nobilis

strong plants of *Fritillaria alburyana*. The leaves were undamaged and the *F. aurea* was untouched by the frost. A short row of *F. latifolia nobilis* caused an intake of breath. The flowers opened at soil level and over the next week or so the stems lengthened to lift the flowers

clear of the foliage. *Fritillaria alburyana*, *aurea* and *latifolia nobilis* are among the most fabulous of all bulbs and here they were, thriving in a drill on a south facing field up here at Rozula.

Before we left Rozula we had to make sure we had seen all that there was to see. This is how we discovered another pond. This pond was supposed to be a drainage ditch but a beaver had worked away and had managed to dam the ditch, forming a long thin pond. As we travelled around Janis pointed out areas of water in the woodlands. These too, were flooded areas caused by beaver dams. He told us the trees would die and that the beavers could be quite a pest. At four or five in the afternoon we left the nursery and headed for 'lunch' as it had been billed on the programme.

'Lunch' turned out to be a banquet at a fine restaurant built beside a lake. You would go far to find a better meal or better company. Platters of cold of meat and fish with salads and bread and with beer and wine to start off, while the chef prepared our main courses. Salmon, beef, veal or pork were on offer, prepared to traditional Latvian recipes. Latvian food is good, even in the Airport café. Towards the end of the banquet when we thought we were going back to Cesis we were joined by a Livonian Knight, his Lady and Princess. Through our interpreter Guna we were told a lot about the Knights of the Livonian Order who ruled the land for hundreds of years. In recognition of his status in the world of horticulture Chris Brickell was asked to swear an oath of allegiance of some sort and is now a Knight

himself. Various rights go with the privilege but his Lady Jean will keep an eye on those! After a splendid day, it was back to Hotel Katrina and thence to the Beer Keller in Cesis where we were to be confused by the buy one get one free offer.

Turaida and its Rose

On Sunday we were lucky enough to be able to visit Arnis Seisums' garden but before that we had another castle to see, the Turaida Castle at Sigulda. This edifice sits atop a tree covered ridge above the river Gauja. It is built in red brick and although it was ruined much has been and is being restored.



Amber Necklaces

I lost the whole party by being a good tourist. The bus parked. I spied a celandine in a ditch; went to look; came back to car park; saw the locals with their craft stalls; admired the amber jewellery; talked to the sellers; bought some; spied haematite jewellery; bought some; looked at walking sticks; didn't need one; where is everyone? I made my own way towards Turaida estate. Entry to the castle is via the Song Park. Folk Song Hill has many granite sculptures representing aspects of folklore and history. Our guide told us the poignant story of The Rose of Turaida. It is Latvia's version of Romeo and Juliet but the baddies were Polish. The Rose of Turaida was an honest and loving girl who chose to die for the sake of love instead of losing her dignity. The villain committed suicide and went to the devil. It is not a happy tale! Newly married couples come here and lay a rose flower on her grave to support the notion that love is stronger than death. Every year there is a rose festival at Turaida.

It was not roses or lovers which caught my eye that

Sunday morning. With the dew still on the ground the lawns were pink with the flowers of multitudes of *Corydalis solida*. They grew as daisies in the short turf. Once again I was on my hands and knees photographing these wee beauties. They were mainly purple or rose in colour and varied in shade from light to dark. Fred and I found at least two white ones. At only a few centimeters tall they were quite magical. Amongst them were a few cowslips, *Primula veris*. By this time I had missed most of the story of the Rose of Turaida! Still we all met up in the wee church where I bought a book about the story of the Rose.

There were several other plants in flower to distract us from the sculptures. Down a steep slope a patch of chrome yellow beckoned. Charging downwards I found that the slope was exceptionally muddy and the chrome yellow *Chrysosplenium alternifolium* was growing in a bog. *Anemone nemerosa* grew in drier ground and the little *Gagea* reappeared. Robert Burns wrote of the 'wee crimson tipped flower'. The daisies at Turaida were the reddest I had seen, excluding the bedding plants favoured by local authorities.

The photographers caught up with the rest of the party at the sculpture park. The sculptures were carved by local artists from granite, glacial erratic boulders. They are set on the grassy ridge of the park surrounded by grass. The overall shape of each sculpture is determined by its boulder. On those which I found most distinctive the carvings on each side folded into each other. A Latvian favourite is that of an old man deep in thought, called 'The Song Father'. Across the song park a steep, twisting, narrow path which led down into a dark precipitous valley and finally up to the Turaida castle on the ridge. For most



Turida Church with *Corydalis solida*



Anemone ranunculoides
with *Equisetum palustre*

of the time we were in the valley, the castle was hidden by trees.

Springtime in a deciduous wood is a magical time. The trees are still bare but plants are bursting out of the ground and flowers are everywhere (if you choose the right wood!) Turaida woods are part of the wider woodland of the Gauja river valley. Most of the trees are deciduous and they have a rich carpet in April. The entrance to the wood was guarded by a big patch of *Anemone ranunculoides* with all around new spears of mare's tail, *Equisetum palustre*, poking through them. The *Equisetum* likes damp ground so these woods are probably moist all year round. *Asarum europaeum* is a low evergreen plant widespread in Scandinavia and Holland and maybe native to Scotland. In the wood litter its straggling stems with their shiny kidney

shaped leaves wandered through other plants and sometimes made quite big patches on its own.

The hairy brown flowers are borne on even hairier stems. White *Anemone nemerosa* flowers were just opening reminding me of home but here it was accompanied by *Corydalis solida*. In the deepest part of the valley, growing through rotting wood was a parasitic *Orobanch*e. Its dark purple stems were just opening and it looked quite sinister.

Eventually we climbed out of the 'gorge' and up to the castle. Turaida castle is being restored. It is built of thousands upon thousands of red bricks. We learned more of the Livonian people but the star attraction for me was the discovery of two coats of arms for Graf von Lieven and one for Baron Lieven. I intend to pursue this, especially the Russian line and if necessary I will change the spelling of my surname. A coat of arms featuring a red shield with seven golden stars and three golden Fleur-de-lis topped by a black double headed eagle would look well above our fireplace!

Arnīs Seisum's Garden

After a superb lunch which cost the equivalent of £5 per head including beer we returned to our hotel to put on our good clothes. Janis had told us to bring some dressy clothes because we were going to the opera house in Riga on Sunday evening. We were very well turned out for rock gardeners on a garden weekend. So the ladies took more than one pair of shoes each! Arnīs lives in the suburbs of Riga. He has a large garden compared to the average Scottish garden but



Fritillaria eduardii



Arnīs Seisum



White 'n red *Tulipa kaufmanniana*

we were not prepared for the huge range of rare bulbs which he grows. He had talked to us about Juno irises but did not prepare us for the sight of them growing in rows in the garden. Some were given the protection of a poly tunnel but most of his bulbs grew outside in the garden. His frits and corydalis are grown in raised beds and he does give them some protection with peat over winter. He has collected several fabulous forms of *Tulipa kaufmanniana* on his travels in the USSR. They gave a bright splash of colour near the entrance. Behind them were the fritillarias. A row of more than forty *Fritillaria eduardii* in flower dominated the bulbs. Strong plants almost a metre tall, their flower colour varied from light to dark orange. Beside them the most fantastic clump of *Fritillaria gibbosa* radiated



Fritillaria gibbosa

health. Sturdy stems holding ten or more pink flowers each with large nectaries. *Fritillaria bucharica* was just as impressive. He grows a tall form of *Fritillaria sewer-*



Fritillaria sewerzowii

zowii with wonderful light green flowers. Members of the Fritillaria Group drooled over the short row of the tiny yellow *Fritillaria minuta* from Turkey. In England, where it is grown in pots, it is a shy flowerer. Now I know what it should look like.

Arnis and Janis both like Pushkinias. To be honest I had not thought much about them but when you get down and really look at the flowers they are beautiful. I think I had better order some, in case they become the next 'must have' plant. All the *Anemone ranunculoides* we had seen growing wild had plain green leaves. Arnis has a form with a deep red colouration at the leaf bases. This adds considerably to its beauty. When all the Juno irises come into flower Arnis' garden must be a sight to behold. Before we left it was



Multi-headed *Tulipa bifloriformis*

tulips which once more attracted me. This time it was the multi-headed species, *Tulipa bifloriformis*. It starts to flower near ground level and as it ages the stems come up to reveal several tiny tulips in a bunch. Yellow brown and pink forms grew side by side. The sun was still shining bright as we thanked Arnis for showing us his garden.

It was now time for the cultural highlight of our visit. Unknown to us, the weekend of our visit coincided with the first anniversary of Latvia and the other Baltic countries joining the EU. We were delighted when Janis told us that he had bought tickets for us to attend the 10th International Baltic Ballet Festival Gala in The Opera House in Riga. This was the official celebration of the 1st Anniversary. We, along with the other celebrities in the audience, were welcomed in English and Latvian by The President of the Latvian Republic, Vaira Vike-Freiberga. The mayor of Riga, Aivars Aksenoks, then welcomed us to Riga praising it as a 'European cultural metropolis'. The National Opera House is a big white building with a façade resembling a Greek temple. Everyone was dressed in their best clothes (just like theatre here used to be). Fred and I refreshed ourselves with a Cognac, coffee and a slice of gateau. No beer at the Opera House! The dancers came from Spain, Austria, the USA, Korea and Japan as well as Latvia. They were outstanding.

By this time we had become much 'better acquainted' and on the bus journey back to Cesis we chatted about all the wonderful plants and dancers we had seen over the weekend. We returned to our hotel at well past 11.00pm and were welcomed back by our receptionist. She had stayed specially to serve us with a light supper which we were sensible enough to have ordered earlier. Once again we enjoyed our Latvian cheese, salad and bread, served of course with a glass of Cesis beer. The next morning we drove to Riga to catch the plane home. Fred and I had only a very short time to see part of the old city. Red and green roofs, stone towers and brick towers and houses with ornate painted facades and beautiful old churches are packed together in the compact old town, sandwiched between the River Daugava and a large park. Modern hotels offer every comfort. Street traders selling all sorts of Amber necklaces, bracelets and brooches stand politely as you wonder which to buy. Latvia has always been famous for its amber. For me it is synonymous with friendliness, hospitality, fine food, wonderful castles, ballet and especially wonderful plants. I hope I can go back very soon. There is much more to see. Our weekend was arranged by Janis and Guna. They packed so much in for us. They never hurried us. They were perfect hosts. Although we were there for only a long weekend we felt we had had at least a

weeks holiday. I am glad I was a good tourist and that I brought home some souvenirs. I now have to order some more bulbs from Janis. I don't know where they are going to grow but he has so many treasures in his list that I can't resist.

In spring 2007 Janis came to Scotland and gave two lectures at the Scottish Rock Garden Club's Early Bulb Day here in Dunblane. The hall was packed with enthusiasts who had waited for more than a year to hear him. He was supposed to talk in 2006 but broke his leg and could not travel. Many of the slides he used and the plants he described are included in his book, 'Hidden Treasures'. He spent much time looking at plants in the display and chatting to members. While he was here he visited several gardens which he wanted to see : those of Susan and Jean Band, who hosted him, Fred Hunt, Margaret and Henry Taylor and Ian Christie. When we visited Ian he took us to see snowdrops growing in a deep dell and others growing in a beech wood. While we were amazed at the Latvian wild flowers, Janis was impressed by sheer numbers of these 'wild' snowdrops in Scotland. We were met by the Earl of Dalhousie who lives in Brechin Castle. One of the Earl's ancestors fought in the Crimean War and he brought some *Galanthus plicatus* back home. These have hybridised with *G. nivalis* to produce some superb plants. We were pleased to be able to show Janis our castles and bulbs as he had been so kind to us. Next spring we hope to return to Latvia. Once we have read his book, I have no doubt our order list will be longer than ever.

On behalf of everyone in our party I want to record our thanks to Janis and Guna for organising an outstanding weekend. Who else could get the President to address rock gardeners?

Janis Ruksans' bulb list is illustrated in colour with lots of photographs and written descriptions of all the plants. If you send for a list you will be hooked.

**Janis Ruksans,
Bulb Nursery,
ROZULA,
Cesis distr.,
LV – 4150
LATVIA**



Sandy Leven Biography

I live with my wife Anne and family in Dunblane, Perthshire, in Central Scotland. I am a Dental Surgeon in nearby Stirling. I graduated from St Andrews University. I have been keen on gardening since childhood. In my parent's garden in Falkland in Fife I grew Dahlias, Chrysanthemums and general herbaceous plants.

Soon after graduating in 1969, I went to work in Inverness in Northern Scotland where I met Jim Sutherland, convenor of the local Scottish Rock Garden Club group. My interest in rock plants and bulbs blossomed from then. In 1975 Anne and I visited Keuchenhof Gardens in Holland.

I have been Show Secretary of the SRGC Stirling show since it started in 1981. A few years later I helped found the SRGC Small Bulb Group, of which I am chairman and I organise the SRGC Early Bulb Display in February in Dunblane. This popular event features morning and afternoon lectures and a non-competitive bulb display. I grow a wide range of spring bulbs and Cyclamen, especially autumn flowering species. I have won several Forrest medals at SRGC shows and am one of 7 exhibitors to have been awarded a silver Forrest medal. [presented to those who win 10 Forrest medals].

I am a past president of the Scottish Rock Garden Club and am SRGC Publicity Manager. On behalf of the SRGC I designed and organised 9 gold medal winning displays at the RHS Scotland's National Gardening Show and the Gardening Scotland show which succeeded it. We won several 'Best in Shows' and once won the RHS Farrer trophy for the best exhibit of rock plants at any RHS show in the year.

I am vice chairman of the Royal Horticultural Society's Joint Rock Garden Plant Committee of which I have been a member since 1991. I am a member of The Alpine Garden Society and the North American Rock Garden Society and the Hardy Plant Society. I have written articles for the SRGC journal, 'The Rock Garden' and report on the SRGC shows for the club web site - srgc.org.uk.

I am a keen photographer and enjoy reading. I have travelled widely in the European and North American mountains looking at plants. I would love to visit New Zealand and South Africa when I have time.



Invitation

for the 24 - 25 October, 2008

In conjunction with the American Daffodil Society (ADS) Fall Board meeting in 2008 in Southern California, the Pacific ADS Region will be hosting their annual autumn daffodil meeting. We would like to extend a general invitation to all IBS members to join us for a symposium on the topic of Miniature Daffodils on Friday, 24 October 2008, and maybe a small autumn daffodil show. The Saturday program, 25 October 2008, would feature tours to see fall blooming daffodils in the Hampson, Howe & Koopowitz garden; a visit to Rogers Gardens (one of the greatest upscale nurseries in the USA) and ending with a banquet at Sherman Library and Gardens in Corona del Mar. The banquet speaker on Saturday will be Lawrence Trevanion from Canberra, Australia. In order to help with our advanced planning we need an estimate of the likely number of attendees. Could those thinking of attending please contact Harold Koopowitz at <mailto:paph2@earthlink.net> so we can get a count of the possible people attending. Please note, for those exploring attending this meeting that the closest airport is the John Wayne, Santa Ana, Orange County Airport. The hotel venue and registration details will be posted in due course.

Lachenalia sargeantii

REVISITED

by Graham Duncan

The appearance of the beautiful pink and ivory flowers of *Lachenalia sargeantii* was reported in 2005, thirty-three years after its flowers were last seen near Bredasdorp in 1971 in the southern part of the Western Cape, South Africa. The plant had originally been discovered in 1970 by Robert Scott, a visitor from New Zealand, while exploring a mountain near Bredasdorp following a large fire there the previous summer. *L. sargeantii* flowers in

early summer, and as with several other pyrophytic geophytes (those that only flower in response to fires), it blooms most prolifically in the first summer season following a fire, declining drastically the following summer to just a few flowering individuals, or producing no flowers at all. This species had previously only been known from the type locality, but much to everyone's delight, Cameron and Rhoda McMaster's 2005 discovery was of a new population,

located some distance to the west of Bredasdorp, growing in virtually identical montane fynbos habitat to the type locality. The plants grow in a harsh, windswept environment on the northern aspect of rocky ridges, and are usually most numerous in protected cracks between large boulders. They occur in large numbers, usually in groups or occasionally as solitary plants, and it is interesting to note that fewer than half the number of mature individuals produce flowers.

In addition to the appearance of flowers in some individuals, all the bulbs (both mature and semi-mature) reproduce vigorously in the winter growing season immediately following a fire by means of bulblets on short stalk-like structures, produced from the base of the bulb. Another interesting feature of all the mature bulbs and most of the bulblets is that in the wild they remain completely dormant in succeeding winter seasons following flowering, irrespective of whether sufficient



Lachenalia sargeantii

winter rains have fallen or not. These bulbs are thus adapted to remain dormant for years, or even decades, with dormancy being broken only by the occurrence of fires. A visit to the type locality in early summer some years ago, following good winter rains, revealed that none of the mature plants had produced any foliage, while a minimal number of bulblets had produced depauperate leaves. No fires have occurred over the type locality since 1971 and the mature bulbs have thus lain dormant there for thirty-six years.

Following more fires in February 2006 in different areas of the mountains west of Bredasdorp, a further two new localities revealed healthy populations later that year containing large numbers of plants including many flowering individuals; one colony was found by the McMasters and the other by a local group of conservationists. These recent finds show that this species is locally quite common in this part of the southern Cape and confirm a suspicion I've had for some time that it was not confined to a single population, but that its flowers and leaves are seldom seen due to their dependence on fire. Its conservation status has previously been categorized as 'insufficiently known', but can now confidently be re-categorised as 'not threatened', and further new populations will no doubt be found in future.

L. sargeantii is one of a group of only three pyrophytic species known for the genus, all of which occur in mountainous terrain on acid sandstone in different areas of the southern part of the Western Cape. The other two members are the white- and green-flowered *L. montana* (which resembles *L. sargeantii*), discovered by the German botanist and traveller Rudolph Schlechter in the late 1890's, and a new, very recently discovered species with creamy-yellow flowers (due to be published soon) that bloomed en masse following a fire in the summer of 2004. All three species flower at more or less the same time of year, from early to late November, and they all have deep-seated bulbs, which may be an adaptive strategy to escape damage from severe fires.

Although *L. sargeantii* produces leaves in cultivation reliably every year, it fails to flower. Smoke-treating the bulbs in the nursery at Kirstenbosch has not induced flowering so far, but I'm hopeful that treatment of the soil surface with burning fynbos material will eventually result in success.



Lachenalia sargeantii

References

Duncan, G.D. and Edwards T.J. 2005. *Lachenalia sargeantii*. *Curtis's Botanical Magazine* 22(3): 176-184.

Duncan, G.D., McMaster, C. and McMaster R. 2005. Out of the ashes. *Veld & Flora* 91(2): 66-69.

Flowers from the Bottom of the Globe

by Jane Preston

Nestled amongst the highland valleys of the Bannockburn Ranges in Central Otago in southern New Zealand I have concentrated on growing some unusual dry land bulbs and corms. These are being grown exclusively for the cut flower markets of the World.

The Eremurus Lily is the mainstay of a small thriving export cut flower business “Bannockburn Floriculture”. Plantings begun in 1990 on the property with direction and advice from my husband’s father, Stewart Preston, who was instrumental in finding plants to suit the environment. Other bulbs

also doing well in this low rainfall (13” to 15”) climate are the *Allium* – around 20 varieties are grown for NZ bulb sales and local flower markets. *Trillium chloropetalum* is also grown under shade for niche

export cut flower markets.

The climate is strongly seasonal reaching 38 celsius (100°F) in dry baking summers and as low as -10 celsius (14°F) in the June – August winters.

Eremurus is pronounced e-ray-meu-rus, and the name is derived from the Greek eremos meaning desert and ouru meaning tail. They are commonly known as Foxtail Lilies and their stately spires of coloured blossom make a statement even on the arid plains of Afghanistan or the foothills of the Himalayas where they occur naturally. They tolerate the extremes of Central Asian heat and the mountain slope snows.

A plant with over 40 species, some of which have been grown in cultivation and hybridised for

130 years. The flowers are now well recognised as an outstanding cut flower internationally and come in a range of colours and shades. The Netherlands, Israel and the USA are the leading producers. However because New Zealand is in the southern hemisphere this allows for out of season production.

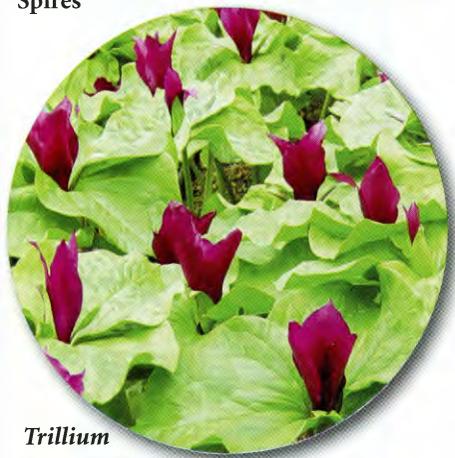
In this part of the world the large *Eremurus* buds push through in early August from large starfish like corms that sit just below the surface. By October their masses of strap like leaves form rows of dense green on the Central Otago property.

Now I manage the cut flower operation myself and it is a busy one, starting in early October with the newest crop, *Trillium chloropetalum*. These are cut at

Eremurus elwesii



Spires



Trillium chloropetalum



Eremurus robustus

60cm and just 40 boxes are sent annually and they are being well received in America and Japan in shades of burgundy red, white and cream.

Then the main *Eremurus* cutting starts in early November with the tall flower spikes of *E. elwesii* (pale pink) and *E. elwesii* 'Alba' (white) growing easily to two metres tall. They are followed by the giant (baby pink) *E. robustus* which can reach three metres – a

towering glory at the back of a border. Each variety cuts for about 10 days and after the early species the coloured hybrids Ruitter (1.5m) and Shelford (1m), which range in colours from vibrant orange, salmon, lemon, white, apricot and brilliant yellow, continue the flower sales till Christmas.

Like the alliums, *Eremurus* foliage dies back as the flowering begins so in a garden they look best when the flagging foliage is hidden by other plantings. The flower spikes of both species add architectural form to the garden.

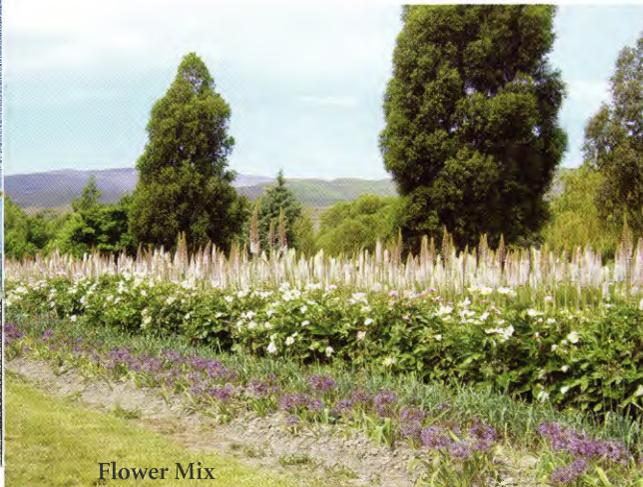
Flower picking stages and much of the individual flower treatment have been worked out from research and ever continuing vase trials. I despatch all flowers only after they have been chilled, conditioned with sugars, fumigated with pyrethrum/permethrin gas for six hours and packed in sturdy flower boxes that are lined with tetron padding and breathable plastic liners.



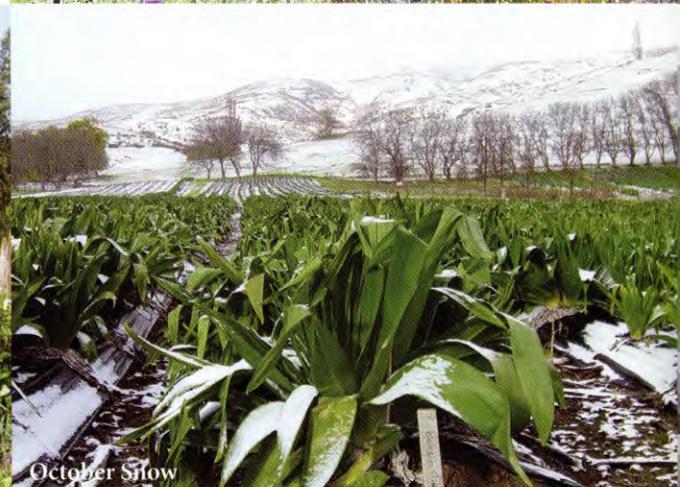
Allium 'Globemaster'



Picking *Allium giganteum*



Flower Mix



October Snow

They travel from southern New Zealand – the bottom of the globe – to Export Companies in Auckland in the north of New Zealand, and from there they are sent to many countries including USA, Japan, Taiwan, Hong Kong, China, Philippines and Saudi Arabia. Up to 400 boxes are exported annually. Flowers arrive within 60 hours of picking and will then start opening from the bottom up and display for 10 days.

The remainder of our year is spent on local bulb sales. These comprise mostly alliums which thrive in the dry seasonal climate. About 20 varieties are grown and many are listed in the website catalogue including *A. schubertii*, *A. giganteum*, *A. karataviense*, *A. 'Gladiator'* and *A. 'Purple Sensation'*. New Zealanders tend to be avid gardeners and alliums will flower in most of the country. *Eremurus* however does require frosts to initiate flower production but both enjoy a hot baking summer – as I do!

Jane Preston
www.foxtail.co.nz



E. 'Shelford'
orange



E. 'Shelford'



E. 'Ruiters' apricot



Jane harvesting

SEED COLLECTION PART 2

– and now the work begins!

Rod and Rachel Saunders

Having collected all our seeds (see *Bulbs* Vol 6 No. 1) in various parts of South Africa, the cleaning and processing has to begin. In fact, it begins even before we get home.

The first processing begins the same evening as the collection was made. All the seed packets are fully labelled – a date of collection, a name of some sort (often a tentative guess!), and locality details. Sometimes there may also be a reference to a digital photograph number on the packet, or when we really couldn't identify the species, a reference to a herbarium sheet that we made of the plant. In the car we carry as many books as we can – usually 8 or 10 selected according to our itinerary and the time of year. In July (mid-winter) we collect mainly tree seeds in the summer rainfall areas of the country, and there are virtually no bulbous plants in flower, so we will take tree and shrub books and no bulb books. In August and September we need books on Namaqualand annuals, bulbs, ericas, shrubs and trees, and more. The books most frequently used are those with good keys and preferably illustrations of some sort such as Field Guides and

specialised books on genera such as *Gladiolus*, *Ixia*, *Kniphofia* etc. However we also often use books such as "Cape Plants" by Peter Goldblatt and John Manning which is simply a list of all the species in the Cape Floral Kingdom, with basic keys and basic descriptions. Whichever books we have with us, we can be sure that there is at least one that would have been more useful which is sitting on the shelf at home!

On our travels we carry a set of laboratory sieves in one of the crates in the car, and if the seed is dry, we sieve it to get rid of unwanted bulk, and also to get rid of some of the insects which are lurking in the seed capsules. *Kniphofias* and aloes are particularly bad in this respect – they are obviously very nutritious and the shape of the seed capsules is just right for insects of all sorts to hide in. The seeds are then dusted with a relatively mild insecticide to prevent further insect damage.

Tree seed poses particular problems of bulk as it often has pods or other bulky capsules which need to be crushed or split to release the seeds. Sometimes all that is required to open a pod, especially *baubini*as, is



Romulea unifolia

warm air circulating around them. We place the un-open pods in sacks on the roof of the car and leave them there for a day or two as we travel. As the pods split they often go off with a bang like a pistol shot which is sometimes loud enough to wake us at night! Others, such as *Acacia* pods, can be split by hand, and this is done on the journey by whoever is not driving. However, some *Acacia* pods are indehiscent and the seed is only released when the pod is eaten by game or livestock. The pods have a sweetish smell and are normally brittle and hard, and they are eagerly sought out by game. To reduce the bulk of these, we place the pods in sacks and jump up and down on them, thereby crushing the capsules and releasing the seed. The resulting debris is sieved and the seeds retained. In this way, 30 – 40kg of raw material is reduced to a few hundred grams of clean seed.

Fleshy seed is usually cleaned the same day if water is available. If not, then it is packed into a leak proof container on the roof of the car where it cannot contaminate other dry seed. We carry a bucket and a large basin with us, so that seeds can be cleaned in rivers when available, or under taps in camp sites.

On the whole, bulbous plant seed is fairly simple – it is not normally too bulky, so requires a minimal amount of pre-cleaning. It is simply labelled and treated with insecticide, and put away.

And where does all this seed fit? When we pack our car, most things are packed into stackable plastic crates – food, rucksacks, boots, books etc. There are also many empty crates, both on the roof of the car and in the back. The seeds in their brown paper packets, are sealed with sticky tape, and are packed into these crates. The crates have holes in the sides and bottoms, so they allow good air circulation. This is important as there is almost always residual moisture in the seeds, and we certainly don't want to arrive home with moist and mouldy seeds.

On arriving home, the seed is unpacked and systematically sorted. First to be cleaned is recalcitrant and perishable seed, so this is all packed into 1 crate. Next in line is all the fleshy seed which must be cleaned before it ferments and gets too disagreeable! Then the seeds with the most insect pests – Irids and other bulbous plant seeds, aloes, acacias and other legumes. The harder more “insect resistant” seeds are left until the end, as are the succulents such as mesembryanthemums, and the host of unidentified nightmares!

The term “recalcitrant” is used to describe a type of seed that does not conform to normality. These seeds have no dormancy mechanism and regardless of conditions, they will germinate immediately on being separated from the parent plant. Most of the South African Amaryllids (except *Cyrtanthus*) fall into this



Tritonia florentinae



Romulea discifera

category (including nerines, brunsvigias, crinums etc). If we don't have a customer for these seeds immediately, we store them at 4°C to slow their germination, often in damp vermiculite to prevent them from drying out. If we are on a long trip, we usually send these seeds home by post and they are cleaned by our staff at work.

Fleshy seeds are steeped in water overnight, and the flesh is then pulverized so that it floats away with the water while the heavier seeds sink to the bottom of the bucket. Often several changes of water are required before the flesh is finally removed. Some seeds such as those of *Sclerocarya birrea* (marula, a large tree with edible fruit) have flesh which adheres firmly to the seed and it cannot be removed easily. Either these seeds are left in a plastic bag in the sun for several days until the flesh begins to ferment and soften, or they are cleaned in a cement mixer. Several kilograms of seed are placed in the cement mixer together with a quantity of stone chips, and this is rotated for several hours until all the flesh has been ground off. The seed is then washed and dried.

Legume seed is usually easy to clean, but because it is so palatable to insects, it needs to be processed quickly before it is all eaten. For the same reason, bulbous plant seeds also need to be processed quickly. These all follow the same routine – dry the capsules well, break them up and sieve out the seed. All the small bits and pieces which go through the sieve with the seeds are winnowed off by blowing. Rod, who cleans most of the seed, wanders round the garden while doing this, resulting in all sorts of strange plants coming up in odd spots! Although the seeds are heavier than the chaff, invariably some seeds blow off with the rubbish. *Gladiolus* seeds differ a bit in that they are firmly attached to the capsules. They are cleaned by drying them thoroughly so that the capsules open fully and expose the seeds, and then shaking the capsules in a bucket to release the seeds.

The cleaned seeds are usually put into new paper bags or packets, labelled carefully, treated with an insecticide if necessary, and then fumigated with Phostoxin for five days to kill any insects that hatch after cleaning and any larvae still lurking amongst the seeds.

After 5 days, the seeds are moved to our seed room and are catalogued – all

collecting information is recorded, and they are put away. The seed room itself is regularly fumigated with a pyrethroid to deal with any insects that have come in from outside. In the past we have had some really spectacular outbreaks of seed parasites, invariably in the bulb and Aloe seeds. It is a seed merchant's worst nightmare finding the seed room full of moths and beetles, and knowing that they have hatched somewhere amongst all the seed packets, or opening a packet of precious seed that took hours to collect, and finding that the seeds are full of holes!

If a plant has not been identified in the field, we will try to find a name at home where we have an extensive library and can key it out using one of the taxonomic monographs. If we still can't get a name, we will take it up to the Compton Herbarium at Kirstenbosch and enlist the aid of a friendly botanist.



Romulea hantamensis

We are surprised how often we come up with a plant that is undescribed – sometimes it has been collected previously but still has no name, and sometimes it has never been collected before. So far the list includes an *Ixia*, a *Romulea*, two *Babianas* and a *Hesperantha* that had not been seen for over 100 years. Often these discoveries occur because we are in the right place at the right time, and the right time is often an unusual time of year when botanists are not often in the field. The *Romulea* was discovered because we could not tell the difference between two yellow flowered species growing side by side. The only way we could distinguish between them was by the corm shape, and on digging up a corm of the new species, we realised that we had never seen anything like it before. The new species was named *Romulea discifera*, for the strange corm. “There is always something new out of Africa”!!

Do we ever make mistakes? No never! Well, hardly ever! Well, sometimes! Mistakes can occur because of the lack of flowers when one collects the seeds, so we are not always one hundred percent sure that the species we saw in flower is the same as the one whose seed we are collecting. Or if we are dealing with a large and complex genus, we sometimes simply make a mistake using the key. But sometimes the mistakes come about due to bad labelling! If Rod has been cleaning many *Gladiolus* species, and then changes to *Romuleas*, we will sometimes land up with strange species such as *Gladiolus amoena*, or *Romulea dalenii* – luckily these mistakes are usually picked up and rectified by the person putting the seed away, or Rachel when she enters the details on the computer.

And finally, how are all the species recorded? All the species that we collect are entered onto a database (Microsoft Access), with the family, genus and species, a description of the plant, and whether it is a bulbous plant, a succulent or a tree. If the seeds were purchased from someone, the price paid and the source is also included. This database is linked to a collecting list which has details on where we collected each species. In the past before we had a GPS, these collecting localities were quite complex – “15km past the T junction on the P1254 road between X and Y, under the tree on the left hand side”! The use of a GPS has obviously revolutionized this, and our collecting details are now far more boring – a plain “GPS 125”! We are also attempting to get a photograph of as many species as possible, and this is also entered onto the database. Digital photography is wonderful, but it has



created a huge amount of work – on returning home all the images are downloaded, and then the identifying and labelling begins. We are all guilty of the same problem I am sure – because it is so cheap and simple to take multiple pictures of the same plant, we sometimes have 10 or 20 images of one species to sort through, and trying to decide which image is the best sometimes takes hours! The pictures are linked to the database, so if we have a species in stock and it reflects on the website, then there is a picture of it. As our catalogue often has 2000 species listed on it, we still have many photographs to take.

All in all, as you will see from the two articles that we have written, seed collecting is an extremely laborious task, but it affords us a good livelihood and a wonderful lifestyle.

This article is illustrated with pictures taken by the authors of some examples of the species which they collect.

Book Reviews

IRISES – A GARDENER’S ENCYCLOPEDIA

Claire Austin Timber Press, Portland, OR. Format: Hardcover, Pages: 340 pp.
Book dimensions: 8.5 x 11 in (280 x 215 mm) Illustrations: 1155 color photos
ISBN-13: 9780881927306 2005 \$49.95

The claims this book makes – over 1000 species, hybrids, and cultivars; irises for every climate and situation; more than 1100 photographs and a one /stop encyclopaedic reference, are well founded.

This beautifully presented book is not a reference book, nor is it a ‘coffee table’ book but it is a very accessible mix of the two. There is enough technical and botanical information for those wanting to learn about hybridising or how to grow something new. But there are also wonderful descriptions and photographs for identification purposes as well.

Each iris group is introduced with a short history and then discussion of the species, collected forms and cultivars. It is logical and clearly laid out. I particularly liked the good scattering of historic and older cultivars in each section, and there is

a good representation of French and American bred irises in the tall bearded section. Additionally, plenty of the Dykes Medal winners are shown and discussed.

The Index is not presented as it is in many botanical books, which have a listing of species followed by the main index of cultivars. This is probably due to the encyclopaedic nature of this book. All the entries are listed alphabetically with the species italicised. This is very simple actually, and I think preferable for quick referencing.

Claire Austin has an impeccable background being the daughter of the rose breeder David Austin. She has been growing and exhibiting irises for over twenty years and has won many awards. She is also one of the photographers of this book. She modestly explains that this book is just a snapshot of the iris genus, and it is not the definitive work on the topic. “It would take thousands of pages to include just 10% of known Irises.”

I think this book fills a real gap, as mentioned in the introduction, between reference and “glossy”. I would recommend it to every bulb or garden group, and to anyone who can afford the indulgence of owning it.

Janet Matthews

*Past convenor of the
Albany Iris Group.
Auckland, New Zealand*



IRISES

A GARDENER'S ENCYCLOPEDIA

Claire Austin



(Page 112)

Iris 'Star Shine'



(Page 220)

Iris 'Madeleine Hamilton'

BURIED TREASURES

Finding and Growing the World's Choicest Bulbs

Jānis Rukšāns Timber Press, Portland, OR.

Format: Hardcover, Pages: 460 pp.

Book dimensions: 7.38 x 10.38 in (265 x 185 mm)

Illustrations: 304 color photos, 4 maps

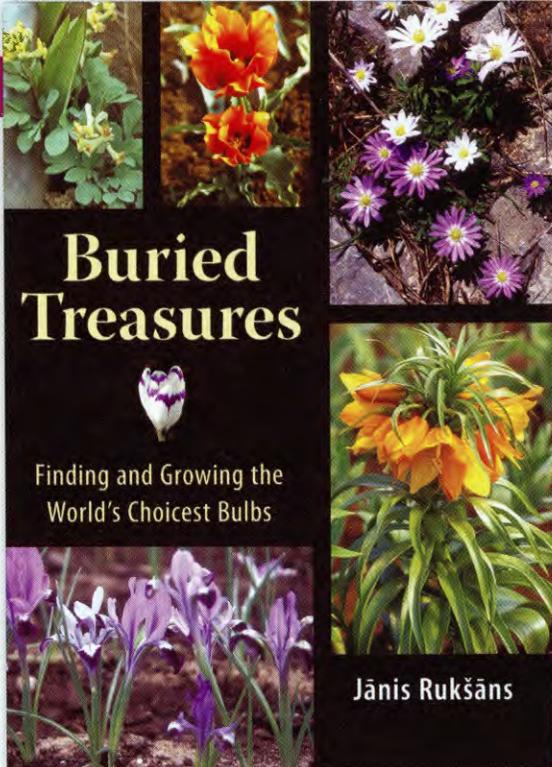
ISBN-13: 9780881928181 2007 \$39.95

As quoted by Chris Brickell in the foreword, "There is much in this book to inform, entertain, and tantalize gardeners whether or not they have a specific interest in bulbs".

Buried Treasures is a unique and very different bulb book; and the best bulb book seen in many years. What makes this book different from all others encountered is the exhaustive amount of research Jānis has contributed to the actual location in which these bulbs are found growing in the wild; and then transferring this knowledge into practical garden settings. This includes detailed descriptions of elevation, climate, drainage, and soil structure. This is what is

so lacking in many other bulb books that simply march through the species with either superficial descriptions or highly technical DNA counts and other technical information that does not help the average grower.

The book is basically divided into two sections – Bulbs in the Garden and Bulbs in the Wild. In the first section is some of the best information about growing bulbs from seed that is currently available. Jānis also includes a lot of other propagation instructions, which have been adopted by growers in Holland, and is



also very easy for the average grower to understand. A lot of practical and easy to understand advice about planting bulbs, harvesting bulbs, viral diseases, fertilizing, watering, pollination, and seed harvesting is also included.

In the second part of the book Jānis describes his many adventures as a bulb explorer – and these are his treasures! Jānis explored and researched in a time that will never be replicated and the stories he tells are simply remarkable. They show his enthusiasm, which as all bulb lovers know is a borderline obsession, on finding and introducing new species. What is particularly intriguing about this second section is that his travels and excursions and the subsequent discoveries are all keyed to the spectacular photos of the species found and described with fantastic detail. This is what is so lacking in bulb books today.

All of the 304 color photographs are of outstanding quality. There are a few special ones that stand out for me. On page 53 (plate 55) *Corydalis seisumsiana* was named in honor of his close friend and fellow plant explorer, Arnis Seisums. His picture is also found in *Buried Treasures*, along with many of the species he discovered as he and Jānis explored behind the iron curtain. Another great photograph on page 129 (plate 115) shows Jānis, in his youth, precariously perched on the side of a cliff looking for that special form of *Tulipa dubia*. But by far, my two favorite species photographs are on pages 213 and 214 (plates 162 and 163) of *Corydalis ruksansii* on location where Jānis discovered it at Shing (plate 162) and the outstanding blooming specimen in his garden (plate 163).

Page 129 (plate 115)

Jānis, in his youth!



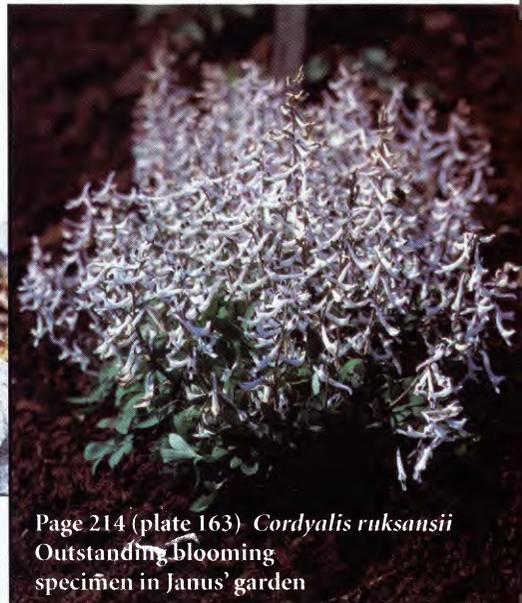
Jānis Rukšāns is a world treasure himself for the collecting, exploring, growing, propagating, hybridizing, researching, and introductions he has contributed to the world of bulbs. Let's all hope Jānis Rukšāns has more buried treasures of books inside him!

Reviewed by Deborah Jordan

Deborah Jordan has a BS in Geology and has taught gifted middle school kids Science in Houston, Texas for 20 years. She is an avid bulb enthusiast with a large collection of rain lilies, a huge collection of Louisiana Iris, and a large assortment of other bulbs she has grown mostly from seed.



Page 213 (plate 162)
Cordyalis ruksansii on location
where Jānis discovered it at Shing



Page 214 (plate 163) *Cordyalis ruksansii*
Outstanding blooming
specimen in Janus' garden

GARDEN BULBS FOR THE SOUTH

Second Edition, Scott Ogden, Timber Press, Portland, OR

www.timberpress.com Format: Hardcover Pages: 396 pp.

Book dimensions: 6 x 9 in (230 x 155 mm) Illustrations: 278 color photos

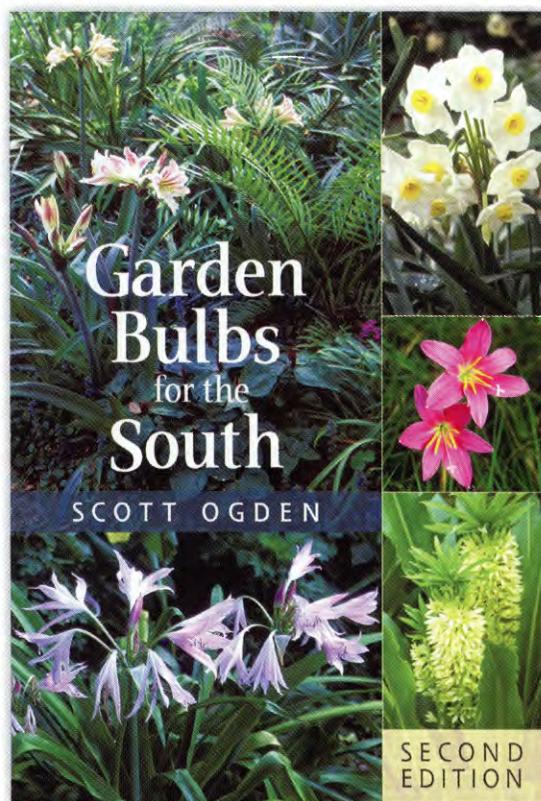
ISBN-13: 9780881928136 2007 \$34.95

The compact easy to handle size and wonderful color pictures on the dust jacket, make you jump right into this book. If you stop to read the inside front of the dust jacket, you will find this: "In a series of chapters that takes us through the gardening year....". However, do not overlook the table of contents, as I did, or the book's arrangement will seem confusing.

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After a two-page Preface, and only a four-page Introduction that includes naturalizing, a discussion of "bulbs and other devices", and botany, the book jumps right into a discussion of various plants.

Chapter 1, Rain Lily Day, gives a 30-page coverage of *Zephyranthes*, *Habranthus*, *Cooperia*, and their hybrids. For the more chronologically mature members of the International Bulb Society (IBS), or younger members who have read old issues of *Plant Life* and *Herbertia*, it will be *deja vu*. It is like



Dorothy in the “Wizard of Oz”, going from a drab black and white world to a world of invigorating color. The exploits and discoveries of Dr. Thad Howard and Morris and Katherine Clint and others are discussed in detail, only now there are beautiful color pictures instead of black and white photographs accompanying the text. Along with this history, there is much cultural and trivial information presented. However, from the arrangement of the book and the opening paragraph of this chapter a novice could come to the conclusion that these bulbs only flower in the autumn.

Chapter 2 continues the autumn theme with a discussion of *Nerine*, *Lycoris*, *Cyclamen*, *Sternbergia*, Autumn Narcissi, *Crocus*, *Eremurus*, *Allium*, *Scilla/Barnardia*, and my favorite, *Rhodophiala*. Great discussions of the characteristics and culture along with fantastic pictures made it hard to put the book down.

Moving with delight to Chapter 3, which covered plants that flower (not bloom) during the winter months, found the same in-depth coverage of various species of *Narcissus*, *Crocus*, Algerian Iris, Roman Hyacinths, *Iphæion*, *Anemone*, *Ranunculus* and Winter Cyclamen.

Chapter 4, “Jonquils and Kin”, had a good presentation on the genus *Narcissus* but then *Leucorum* and *Galanthus* are thrown in at the end. These all may be in the same family, but they are not really close kin to the Jonquils. I think they are all spring treasures and could have been included in that chapter.

Chapter 5 on “Spring Treasures” covers *Allium*, *Tulbaghia*, *Nothoscordum*, *Dichelostemma*, *Triteleia*, *Androstephium*, *Erythronium*, *Trillium*, *Polygonatum*, species tulips, *Muscari*, *Scilla*,



Lycoris squamigera



Rhodophiala bifida



Hymenocallis liriosme

Ornithogalum, *Camassia*, *Zigadenus*, and *Schoenocaulon*.

Chapter 6 is where the yearly theme of the book breaks down. What do you do with bulbs that flower in late spring or early summer? Ogden starts grouping them botanically in this chapter titled: “Iris, Gladioli, and Shellflowers”. Genera covered are: *Iris*, *Gladiolus*, *Moraea*, *Hermodactylus*, *Dietes*, *Freesia*, *Sparaxis*, *Crocasmia*, *Tigridia*, *Alophia*, *Nemastyllis*, *Herbertia*, *Cypella*, *Gelasine*, *Calydorea*, *Neomarica*, *Sisyrinchium*, *Aristea*, and *Belamcanda*. Others are mentioned in passing.

Chapter 7 continues the botanical grouping with “Crinum and Spiderlilies”. A very interesting and informative discussion of the genera *Crinum*, *Hymenocallis*, *Eucharis*, and *Pancretium* is presented, along with great photographs. However, the information presented will be of limited value if one is trying to identify an unknown species or cultivar. Oddly, tucked away between *Crinum* and *Hymenocallis*, under a discussion of *Amarycrinum*, is a brief mention of *Amaryllis belladonna*, *A. x parkeri*, and *Brunsvigia*. No mention is made of crosses between *Amaryllis belladonna* and *Brunsvigia* (*xAmarygia*) and no photographs are provided for *Amaryllis* and *Brunsvigia*.

Chapter 8 takes a weird turn and goes to “Summer Glories”, which is strange because many of the genera covered flower during spring in the South and not summer. This chapter starts out with the genus *Lilium*. Genera also included in this chapter are: *Gloriosa*, *Littonia*, *Alstroemeria*, *Dichorisandra*, *Commelina*, *Dioscorea*, *Anredera*, *Asparagus*, *Eucomis*, *Agapanthus*, *Polianthes*, *Manfreda*, *Milla*, *Bessera*, *Leucocoryne*, *Hypoxis*, *Rhodohypoxis*, *Bletilla*, *Achimenes*, *Begonia*, *Dahlia*, *Amoreuxia*, and *Oxalis*.

Other genera covered in this chapter that I am sure are of interest to IBS members are: *Hippeastrum*, *Sprekelia*, *Crytanthus*, *Scadoxus*, and *Nerine*. The discussion of *Hippeastrum* was interesting with much of the history and origin of hybrids covered and a number of species mentioned. However, the only species pictured was *H. striatum*. The section on *Sprekelia* was good but brief. *Crytanthus*, *Scadoxus*, and *Nerine* are covered in less than two pages with only *C. obrienii* and *S. multiflorus* pictured.

Chapter 9 continues the scheme of grouping plants and delves into Cannas, Gingers, and Aroids.

Of the 63 pages in this chapter, eight are devoted to Cannas so the majority covers Gingers and Aroids. Genera of gingers covered includes: *Hedychium*, *Curcuma*, *Zingiber*, *Alpinia*, *Globba*, *Siphonochilus*, *Costus*, *Cornu-kaempferia*, and *Kaempferia*. The pictures of the *Kaempferia* and *Costus speciosus* 'Variegatus' made me drool.

The section on aroids covered such plants as: *Philodendron selloum*, *Alocasia*, *Calocasia*, *Xanthosoma*, *Caladium*, *Amorphophallus*, *Sauromatum*, *Arisaema*, *Arum*, *Arisarum*, and *Zantedeschia*.

The final chapter, "Designing with Southern Bulbs", offers many different ideas for using bulbs in the landscape accompanied by pictures of examples. Topics covered include: "What Bulbs Do for Gardens", "Foins, Alternates, and Guilds", "Bulbs in Grass", "Other Companions", "Bulbs in Gravel", "How Many? What Style?", "Color, Texture, and Light", "Fragrance", "Cultivation and Irrigation", "Mediterranean Beds", "Bulbs for Heavy Soils", and "Bulbs for Shade".

To me, the arrangement of the chapters and material seems somewhat jumbled, but is easily overlooked. My biggest disappointment was the use of botanical terms with no or poor definitions and confusion over the types of underground stems grouped under this book as "bulbs". The discussion on "bulbs and other devices" was weak and confusing with such statements as: "These stem tubers are known as corms." **and** "... corms completely replace themselves each season, often forming new tubers atop the shriveled remains of the old." The confusion

between tubers and corms

continues under such plants as *Amorphophallus*: "The globular corms send up only a single leaf but this is so marvelously built and branched as to suggest a small palm tree. If the tubers are large ...". *Cyclamen* is listed as having tuberous roots instead of true tubers.

Despite the listed problems, this book is an easy and delightful read and introduces the reader to many different geophytes. The pictures are great but it is disturbing when a plant is mentioned but pictures are not provided, especially for less common genera. However one could always go to the Gallery on the IBS web site www.bulbsociety.org and see examples. This book will not serve as a good reference for identification and should not be purchased for that purpose. However, it does excel at introducing the reader to many different geophytes and offering suggestions for how they may be successfully used in the southern landscape. So many different plants are covered that even the most experienced reader may be introduced to a new plant.

Mark J. Schusler, Assistant Professor Horticulture
Tarrant County College
4801 Marine Creek Parkway
Fort Worth TX 76179-3513
817.515.7714
mark.schusler@tccd.edu

Biography

Mark Schusler grew up on the South side of Chicago. His childhood idol was Luther Burbank. He worked in wholesale-retail growing greenhouse, retail florist, research nursery, and did freelance landscape design and installation. He received a B.S. degree in Ornamental Horticulture and M.S. degree in Horticulture from the University of Illinois at Champaign-Urbana. Research and thesis was on the composting and utilization of pine and hardwood barks as container media for nursery and greenhouse crops.

Mark moved to Texas to teach Horticulture at Tarrant County College. Currently a tenured member of the faculty as Assistant Professor and Coordinator of the Horticulture program and about to complete 30 years teaching. He has taught over 25 different credit and non-credit Horticulture courses, and has received

Costus speciosus 'Variegatus'



several awards for excellence in teaching including the Golden Apple Award, and the Chancellor's Award for Academic Excellence.

He became interested in *Hippeastrum* in 1980 after receiving a few Mead Strain hybrids from his wife's Aunt in Houston, Texas. He started breeding with those and since then has been growing and breeding *Hippeastrum*. Between two very hard freezes, and his wife's moving as a Methodist preacher, there have been numerous setbacks in the breeding department. Mark is also interested in *Habranthus*, *Zephyranthes*, *Datura*, *Iris*, and *Belamcanda*.

Originally a member of the American Plant Life

Society, Mark received training and certification as an Amaryllis Judge for APLS from Elinora Legatski of Houston, Texas. While not an overly active member in the International Bulb Society, he has been to a couple of the meetings, donated a few items to the Bulb Exchange, and participated in a few discussions on the internet.

Mark now resides in Springtown, Texas with his wife Nancy. They have two grown and married daughters who live in Houston and

Mertens. He continues to breed and grow Amaryllids, and shares his information on growing and breeding with many in the Fort Worth area.



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