# BULBS

An International Bulb Society Publication



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#### BULBS

The quarterly publication of the International Bulb Society

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Join the International Bulb Society! Member benefits: annual *Herbertia*, quarterly *BULBS*, semi-annual Seed Exchange (SX), educational website, book discounts, email Bulb Forum, and the Bulb Exchange (BX) (for members of the email Bulb Forum).

1 Year US	\$30.00
1 Year International (Air Mail)	\$40.00
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Join the IBS Email Bulb Forum!

Contact Robert Turley and simply ask to join the Forum: RMTurley@aol.com

# Come to the Spring Bulb Fling 2000!

Please accept my personal invitation to join us in Lake Charles, Louisiana, this coming May for the best International Bulb Society Bulb Conference in years. The dates are May 6th and 7th (Saturday and Sunday), with a social hour on Friday night for early arrivals.

We are putting together a something for little everyone: internationally renown bulb speakers, wonderful slide shows, a bulb auction. silent raffles, door prizes, back issues of Herbertia and bulb book sales, and a bulb flower first time show!

The Conference will take place at the Calcasieu Extension Agriculture Center, which is my place of employment. It has a large meeting room that will hold 85 people comfortably, a conference room for 30, and kitchen and rest room facilities that are clean and convenient. We will have the exclusive



Robert Turley, IBS President

of all these use facilities for the of duration the conference. The Center is adjacent to the Lake Charles Regional Airport. It will be easy us to pick for up participants from the airport. Best Western Richmond Suites, our headquarters motel, is just off Interstate 10, a short distance away. Please see the insert below for registration information and details.

Come to southwest Louisiana and join us in "la joie de vivre et a laissé les bons temps rouler".

# IBS "SPRING BULB FLING 2000" Weekend of May 6th & 7th

# Calcasieu Agricultural Center, 7101 Gulf Hwy, Lake Charles LA

# Activities

RARE BULB Auctions SLIDE SHOWS Bulb FLOWER SHOW with prizes Annual Herbertia Medal presentation Bulb and Bulb Book RAFFLES Bulb Books & Herbertia Booth SALES

## Speakers

Dr Jack Elliott Dr Harold Koopowitz Dr Alan Meerow Kathy Andersen Dr Thad Howard John Harris

### Early Registration: \$25.00 Registration at the door: \$35.00

Don't miss out! Reserve your place now. Send your name, address, email address, and check made payable to IBS to: Cathy Craig, Treasurer, 307 Calle Sonora, San Clemente, CA, 92672 or email <u>Batlette@home.com</u>

#### WHAT'S IBS DONE FOR YOU LATELY?

#### The Year that Was

Dear members, in December 1999, IBS completed its first year with a completely new board of directors. Two notable exceptions; Robert Turley was elevated to President of IBS, and Alan Meerow was retained as our Science Director. Otherwise the entire board was filled with new people and many new positions were added, also added was a slate of International representatives.

#### Apologies to all

On behalf of IBS, I offer a sincere apology to you all for our 1999 publications being delivered late. During that first year of operating with a new board, our chief editor resigned and after much searching, other editors were found. BULBS, our fall of '99 newsletter, and our 1999 Herbertia are still in work even as this new BULBS goes to press. We intend to make it up to you; read on.

#### So...What's the GOOD News?

There is plenty of good news for 2000:

- BULBS is hereby promoted to magazine status, improved and expanded, and will be published quarterly; the premier issue of which you are now holding.
- IBS BOOK AISLE has opened. This permits our members to order all Timber Press books, and other books as well, at a tremendous discount.
- SX is now operating twice a year under our new Seed Exchange director, Shawn Pollard. The Seed Exchange list will be published in spring and fall this year.
- SPRING BULB FLING is a brand new IBS activity and is scheduled for early May this year.

#### **BULBS your Newest IBS Publication**

This publication, which replaces our newsletter, was only an idea mere weeks ago. It has taken extreme dedication and hundreds of hours of hard work by our staff and contributors to make this dream a reality and to deliver it into your hands by spring of 2000. We sincerely hope you enjoy it. Thanks to all who worked so diligently to complete it on time with special gratitude to my executive editors: Mary Sue Ittner, Dr. Jack Elliott, and Tony Palmer.

BULBS will be a quarterly publication and while this issue is black and white, we are hoping to be able to produce our first COLOR issue this fall. You can help! Please see page 15 for (tax-deductible in the US) donation information.

#### SPRING BULBS FLING 2000

Don't forget to register for this very exciting event! Details for registration appear at the bottom of page 1. Come early! Social hour at 8:00pm Friday May 5<sup>th</sup> in the lounge of the Best Western Richmond Suites (address below).

FLOWER SHOW: For information contact Arnold Trachtenberg, IBS Mailing Director, 140 Lakeview Av, Leonia, NJ, 07605-1513 or Fagus@mars.superlink.net

SPEAKERS: Our speakers will be bringing their very best slides and will be talking on a variety of topics, including; Saving your Bulbs from Rot, Bulb Phyllogenics, Rare Bulbs from Strange Places, European & Middle Eastern Bulbs, Narcissus, Bulb Explorations, and a perennial favorite – Rainlilies

ACCOMODATIONS: Best Western Richmond Suites, 2600 Moeling St, Lake Charles, LA (318) 433-5213. For additional accommodations in Lake Charles, please call the Lake Charles Chamber of Commerce for recommendations.

RARE BULB AUCTIONS: Please send bulbs you wish to donate to: RM Turley, Calcasieu Agricultural Center, 7101 Gulf Hwy, Lake Charles, LA 70607-7414. President Turley will pot up bulbs as necessary while holding for the event.

C Craig

# BULBS

Volume 2, Number 1

Spring 2000

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PHOTO CREDITS

We gratefully acknowledge the following persons who generously contributed their own photographs to this issue of BULBS: Rod Leeds, David Fenwick, Jack Elliott, Tony Palmer, Bob Rutemoeller, Roy Sachs, Lisa Flaum, Linda Dodge, Robert Turley, Mary Sue Ittner, John Harris, Cathy Craig, David Ulmer.

#### ADVERTISE IN BULBS!

If you have a small nursery (or not so small) consider advertising in BULBS. Our readers have demonstrated their wish to support businesses that advertise in The International Bulb Society publications.

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1/4 nage	\$60	\$50	\$200/4
1/2 nage	\$100	\$82.50	\$330/4
Full page	\$160	\$132.50	\$530/4
То	inquire about placing ads plea	ase see inside front cover thi	s issue.

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The International Bulb Society, Inc., is a non-profit organization. Said corporation is organized exclusively for educational and scientific purposes; and especially to promote, encourage, and foster the horticulture, development, and improvement of bulbous or geophytic plants and public interest therein. These purposes are expressly limited so that IBS qualifies as an exempt organization under IRS code section 501 (c) (3).

#### **COVER PHOTO CONTEST!**

Do you know what is pictured on our cover? We will be awarding prizes to readers who can correctly identify this geophyte by its botanical name. Submit your (one) answer by mail to BULBS Editor, 307 Calle Sonora, San Clemente, CA, 92672, USA, or by e-mail to Editor Batlette@home.com.

Entries must be postmarked or dated by May 1, 2000. We will be awarding up to 15 prizes selected by drawing from the correct entries.

# EN GARDE! by Roy Sachs

#### Defend your Plants against Moles, Gophers, and Squirrels

Three years ago at our Monte Rio mininursery in Northern California some burrowing animals (followed by secondary fungal and bacterial infections) destroyed a small collection of yellow, rose, red, and flame-colored callas. The white were untouched. Now, in another part of the nursery the red and flame callas are thriving with no apparent burrows in the vicinity. But burrows are again appearing where they were first spotted where no callas remain.

Why? My neighbor, quite innocently, let me know why. After his, "Happy New Year, Roy", he asked whether I had seen a recent increase in mole or gopher holes in my little nursery. "Yes indeed", I said, and he then told me that a week before the New Year he had installed a few sound-generating anti-gopher stakes to get them out of his lawn. No question the battery-powered stakes worked (too well) and that tweaked my interest in the entire field of control of burrowing vertebrates.

#### Who are these guys anyway?

Moles are insect and worm-eating mammals, not rodents, whereas pocket gophers and ground squirrels are true burrowing rodents that like roots and underground storage organs. Squirrels do aboveground damage, too, nibbling all sorts of vegetation and even the bark of various trees. It's not clear that control systems for each animal must differ; the same traps and poisoned baits, placed in burrows, seem to be recommended for all three. Fumigants against ground squirrels may not be effective against gophers and moles because the latter two rapidly (and wisely) seal off their burrows when they smell the fumigant.

#### Traps

Useful hours were spent examining and setting several of the \$6 to \$15. spring-loaded scissors traps available: without injury SO far. Since I am widely known as "superklutz", this is a



good sign. Harpoon-type traps, which are recommended, were not in stock at any of the garden shops visited. Though they may be more expensive than the scissors-types, they look no more dangerous.

Finding the part of the burrow where the animals are likely to run and then placing the triggered trap in the burrow, look like trickier jobs. But there is at least one publication encouraging with diagrams and instructions for would-be trappers (T.P. Salmon and R.E. Lickliter. Wildlife Pest Control around Gardens and Homes, Pub 21385, Cooperative Extension, University of California. This is available for \$10 from DANR. University of California, 6701 San Pablo Ave, Oakland, CA 94608-1239, email anrpubs@ucdavis.edu Tel. 510-642-5470).

Live-catch traps are available, with suggestions for appropriate baits, but you have to decide what to do with the trapped animal. It's bad enough getting rid of a dead one. And there is an advisory in California to be quite careful handling squirrels since they can be carriers of tularemia and plague (great!).

#### Fumigants

The USDA will sell you cartridges and fuses for control of squirrels, but there is no consensus among experts that smoke generating fumigants will control moles and gophers (for reasons cited earlier).

#### Magic solution in the tunnel

Cathy Craig, IBS Bulb Forum member, told of treating an uncaught tunnel dweller with a solution shared by forum member Kelly Irvin. She ordered a gallon of cold-pressed castor oil from www.baar.com and mixed it with the ingredients in the recipe given below. Further instructions were to water the area thoroughly and to spray the mixture using a hoseend type sprayer like Ortho makes. She advised to re-water after spraying or try to apply mixture just before a rain. One full sprayer covers about 1500-2000 sq. ft. (ca. 100 - 130 sq. m). This treatment is only effective for 3 months and then needs to be reapplied.

Mix: 1 Cup (225 ml) castor oil 1 cup (225 ml) human urine 1 cup (225 ml) liquid dishwashing soap

Add enough extra water to fill the sprayer container that goes onto the end of a hose.

The astute reader will recognize some of the problems in concocting this mixture, which is not available over the counter, at least not in California. Note that the correct methodology for collecting one of the active ingredients is surely gender-specific. [Not true! Ed.]

#### Firecrackers: The M-80 treatment

Giaccobone, another Ray member of the IBS Bulb Forum, reported he had success in controlling moles with a modified, lower power, M-80 firecracker that he was able to purchase from a fireworks stand. I am unable to get anything hold of similar in California. One manufacturer of this type of firecracker is Phantom Fireworks, PO Box 66, 12900 Columbiana-Canfield Road. Columbiana, Ohio 44408-0066. (800) 777-1699. Experience with the "real" M-80, a US military device that simulates incoming rounds. does mortar not recommend it for home use.

In the same genre of controls, Brian Roth, a member of the bulb forum, reports success with 1) blasting caps that would be set off by moles pushing dirt around a switch closing a battery circuit and 2) closerange shot-gun blasts.

#### Sound generating stakes

One such stake, GO'PHER-IT II, was purchased for \$37, batteries and tax included, but similar devices may be available for less. The manufacturers claim that a sound, threatening to all below ground



animals, is generated in a 7.6 m (25 ft) around the radius stake, which is 40.6 cm (16 in) long and buried to the hilt. Soil density will determine how easy or difficult it is to insert the stake the sound and radius. propagation There's no question that my neighbor's stakes drove the moles

at least 7.6 m (25 ft) away from his stakes and now I have to cope. But I have the same soil density, lots of clay, and I plan to begin the battle with a sound stake or two.

Conclusion: If you find mole, gopher, or squirrel burrows among the bulbs, fight the beasts. Lots of weapons are available off the shelf.



**Roy Sachs** is a retired Professor of Horticulture (University of California, Davis), and is an owner and operator of a nursery specializing in selection and production of

alstroemeria, with lesser effort given to other geophytes.

# Starting Hippeastrum from Seed

by John Harris

There are surely thousands of different ways to start plants from seeds. The following is one I have developed over the years after trying many different ways.

#### Lights

Although I have a greenhouse, I prefer to start seeds under lights. My 61cm (2ft) by 122cm (4ft) light shelves have two light fixtures each containing two 122cm (4ft) long 40-watt florescent lights. I have found the inexpensive cool white lamps work perfectly well. The fixtures are about 36cm (14in) above the shelf.

#### Pots

I use 10cm (4in) square pots for starting my seeds. The pots are filled to within about 2cm (<sup>3</sup>/<sub>4</sub>in) from the top of the pot with wet soil mix.

#### Soil mix

The soil mix I currently use consists of 2 parts Promix BX, 1 part coarse sand, and 1 part cat litter. On top of the soil I add sand until it is level with the top of the pot. The wet soil will usually wet the sand. If not, I add a little water to insure the sand is wet.

#### The seed planting process

Since Hippeastrum seeds are papery thin, I use a plastic label end to make a vertical slit for them in the wet sand. I have found 3 rows of 7 seeds to work very well in a 10 cm (4in) pot if they are spaced 1 cm (½in) apart.



#### The plastic bag

Once the seeds are planted in the pot, I put the pot in a 3.8 l (1 gal) plastic bag. I use the kind that comes with twist ties. The purpose of the plastic bag is to 1) create a mini greenhouse under the lights and 2) insure the soil mixture does not dry out. The bag serves as a very effective buffer for heat and moisture during the seed starting process.

#### Inhibiting algae growth

One additional step I take to inhibit algae growth is to sprinkle cinnamon (the kind used in cooking) on top of the sand just prior to closing the plastic bag.

#### Results

After completing the above, the pot is placed on the light shelves and left alone. Sprouting of the seeds will generally occur at about 10 days.



I generally allow the seedlings to continue growing in the bag until they are 7-15cm (3-6in) tall. No watering is required until the plastic bag is removed.

Once the seedlings begin to hit the top of the bag, I remove the bag and start watering them daily just to keep the mixture wet. All watering is with a ¼ strength mix of Peters 20-20-20 fertilizer.

#### Speedy growth

Following this method I generally have to transplant the seedlings at 6-8 weeks from sprouting. At that point the developing bulb is usually about 1cm (½ in) wide with 4 to 6 leaves that are almost 25cm (10in) long.

#### Moving to the Greenhouse

I usually do the final transplant and move the seedlings to the greenhouse when they begin to bulge the 10cm (4in) plastic pot. I generally transplant to individual 10cm (4in) pots. While individual pots seemed to work fairly well, I wanted to see if I could push them to blooming size sooner by growing them in community pots.

#### **Community Pots**

I am experimenting with community pots that are 15cm (6in) deep, 61cm (24in) long, and 43cm (17in) wide. The seedlings are planted at 6-7cm (2.5-3 in) spacings.

Hippeastrums seem to love crowding so I theorized that the community pots might encourage them to bloom sooner. I will know by next year whether growing them in community pots has been an improvement on my successful method of growing Hippeastrum from seed



**John Harris** hybridizes hippeastrum and "spider form" hemerocallis in Virginia, about 30 miles south of Washington DC.



## **GLOBAL REPORT**

News from our international communities

#### The AGS December Bulletin

Some of our members saw the AGS Special Bulb Issue of September 1998 but they may not have appreciated that a lot of interesting bulbs appear in most of the quarterly Bulletins. The December issue was typical of these, and it included the annual report on the shows, at which bulbs are always a major feature.

Fritillaria gibbosa is the cover picture. It is a member of the *Rhinopetalum* group, characterised by widely open flowers with a very prominent nectary at the base of each segment protruding from the back of the flowers. *F. gibbosa* is one of the most beautiful of all the species, a good deep pink with slight darker tessellation and veining, and very deep olive green nectaries. In the specimen illustrated there were up to five flowers to a stem above broadly lanceolate grey-green leaves.

Illustrating 'A Bulb Frame in Vienna' there are pictures of the fine autumn-flowering C. goulimyi and the pure white form of C. boryi, and the spring-flowering C. sieberi subsp sublimis 'Tricolor', showing the deep orange base and lilac-blue outer part, with a prominent white band separating them. Even more appealing were the two pictures of Colchicum variegatum and Iris nicolai, which most growers find difficult to grow well. I have admired the deeply chequered lilac-pink flowers of Colchicum variegatum frequently on autumn holidays in the Greek islands but never as a clump like that illustrated. Iris nicolai (I. rosenbachiana) is one of the most beautiful of the Junos. flowering very early in spring in the

alpine house. The flowers are a deep shade of lilac, apart from the white throat with a yellow crest, and the darkest violet falls. Two great rarities are illustrated in the Show report. Fritillaria davidii is a remarkable new Chinese species with extraordinary broad leaves with branched veining, making it unrecognisable as a bulbous plant when out of flower. The short 5-7cm (2-3in) stem carries a solitary nodding bell-shaped flower, greenish yellow in colour, with conspicuous reddish purple tessellation over the basal half. Crocus x gotoburgensis is a beautifully coloured hybrid between C. pelistericus and C. scardicus, with deep yellow flowers, shaded on the reverse and towards the tips with reddish brown. Like C. scardicus it is best kept slightly moist during the summer.

The Farrer Medal, the award given to the 'best plant' at each show, was given to bulbs on several occasions. Trilliums are quite common recipients and this year it was given to the small T. rivale, white with only the palest of pink markings. Two Fritillaria species received the award. F. aurea is a popular species for exhibition and this was a fine specimen with a large number of broad hanging yellow bells heavily spotted with brown. F. conica is much less often seen and this was a remarkable achievement in a species, which is usually slow to increase. Eleven stems bore dark green very glossy lanceolate leaves and solitary widely conical deep yellow flowers, tinged with green at the base. An even more unexpected Medal recipient was a large wellflowered pan of Ipheion dialystemon, a tiny species with glossy linear leaves and widely opening deep yellow crocus-like flowers.

#### The AGS Seed List

The arrival of a seed list is one of the great annual events of a gardener's life. It is the stuff of which dreams and memories are made. It is remarkable how many rare and often difficult plants are on offer, and one wonders sometimes who it is that has grown them so successfully that they can produce several packets of seed from them.

Among the 6453 items on the list there are several names that excited your reporter, of plants loved and lost in the past, plants that have spent years on an unfulfilled list of desiderata, or even plants that are a complete mystery, perhaps the most exciting category of all.

The list begins and ends with seed collected in the wild and there are several items there with special appeal. Anemone tschernjaewii (misspelt in the list!) brings back happy memories of its introduction by that great plant collector Paul Furse. Perhaps the most beautiful of all small anemones it forms a cluster of sparsely divided leaves above which rise 3-4in stems bearing exquisite goblet shaped flowers of palest pink with darker purplish pink in the centre and dark purple anthers. It became an immediate favourite in the early '60's and has been re-collected intermittently, without ever becoming common.

Iris planifolia conjures up memories of a hill town in Eastern Portugal where the slopes beneath were covered with thousands of plants of this beautiful Juno Iris in February. It is one of the easiest small Junos to grow. The list contains several other uncommon Junos more suited to the Alpine House like the yellow *I*. kopetdaghensis, and the very dwarf blue *I. nusairiensis*.

Crocus scharojanii (C. lazica) is an uncommon species that flowers very early in autumn, sometimes even in August in the UK. It is unique among the autumn-flowering species in being deep yellow in colour, and also in resenting being dried off during its summer dormancy. It grows well in humus-rich compost in a trough or raised bed that is kept moist at all times, but it is slow to increase.

Among seed collected in Greece by an AGS expedition appears the rare *Fritillaria epirotica*, a small mountain species allied to *F. graeca* with dark brownish-purple flowers without any green stripe. Another rare *Fritillaria* species offered is the Japanese *F. japonica koidzumiana*, a very dainty plant less than 4in/10cm high with narrow leaves and one to three nodding white flower with reflexed segments. It makes regular appearances at the AGS Shows, and favours moist woodland conditions in the garden.

The list is full of such excitements, especially in some of the other large bulbous genera like Calochortus, Cyclamen, Narcissus, and Scilla, and for the woodland garden Erythronium and Trillium, which are all well represented.

Many bulb enthusiasts in the UK are growing less hardy species from S. Africa and S. America and there is a good sprinkling of these throughout the list. Growing them from seed will give an opportunity to experiment with stocks of them outside in the open garden. All that is needed is speed in getting off an order, and a modicum of patience to see them to flowering size. It helps to be a donor too! The Alpine Garden Society's is only one of several Societies' lists that are wonderful sources of bulb seed for the adventurous gardener.

# In Praise of Tulbaghia

by David Fenwick

Tulbaghia or more commonly 'Society Garlic' is a delightful, charming genus of small bulbous plants belonging to the family Liliaceae. These plants deserve to be more widely grown because of their diversity; in leaf, flower colour, and shape, and because they are well suited to the smaller gardens so prevalent nowadays.

One either loves them or hates them because of their well-known garlic odour. Because of this somewhat over-stated reputation they have been largely neglected by commercial growers and are purchased mainly by the alpine enthusiast rather than the average gardener or bulb collector.

They are tough plants, which makes them one of the most suitable bulbs for pot culture. They have a long flowering period and are very robust. It is hoped that many more people will grow them for many species are under threat of extinction in their natural environment due to over collection for culinary and medicinal use.

This author became very interested in Tulbaghia five years ago when three species I had acquired flowered during the summer of that year. One evening I happened to venture out into the garden and smelt the most amazing perfume, so strong it took some time to trace. The irony is that I'd broken my nose some years earlier and had given up all hope of my sense of smell ever returning. When my ability to smell returned I couldn't help but think that the plants had stimulated it in some way.

My collection now numbers over 40 species, varieties, and hybrids and has recently been recognised by the NCCPG [National Council for the Conservation of Plants and Gardens Ed.] as a National Plant Collection®.

There are many aspects that need reporting as so little has been written about them. Here I would like to provide a general account of *Tulbahgia*, and will concentrate on the more widely grown species, under the following headings:

History and Classification

• Ease of Culture

Growing from Seed

• Horticultural Guide to the Genus

References

I will concentrate on the more widely available species.

#### **History and Classification**

Linnaeus gave the genus its name in 1771 to honour a relationship with Ryk Tulbagh, governor of the Cape Colony of South Africa. Originally named Tulbagia, it was corrected to Tulbaghia in 1792. Revised by Ave-Lallemant in 1844, Baker in 1871 and Uphof in 1943, little was done to clarify previously perceived problems with their nomenclature. Only in the last 20 years have revisions tried to deal with taxonomic issues.

Two revisions, one by C.G. Vosa and the other by R. B. Burbidge, are somewhat incomplete and their opinions sometimes differ with respect to classification within the genus. Both are indeed marvellous works in their own right and recognition must be given to both authors.

It is hoped that this I will help you taxonomical overcome prior confusion by the referring to "Horticultural Guide to the Genus' later in this article. The guide describes species and several varieties and includes many photos.

#### **Ease of Culture**

Tulbaghia are extremely easy to grow and generally no special methods are needed for their culture. I grow them here in different sized clay pots, the size of which is very much dependant on species. A minimum of a 127mm (5in) standard or bulb pot is necessary for small species like T. cominsii and T. galpinii. Pots up to and including standard 30cm (12in) or long toms are required for the larger species and T. violacea hybrids. A peat based multipurpose compost can be used. Here we use compost obtained from 'growbags'. Some brands contain varying grades of peat and are quite coarse, and provide a very open, free draining compost. These contain a high ratio potash-based fertiliser that of promotes flowering. They are also cheaper to buy and easier to carry so if the right brand can be found, it is a distinct advantage to the grower.

Species are potted to 2.5cm (1in) below the top of the pot and a 1cm (1/2in) layer of round aquarium gravel is placed on the surface after watering. This prevents any weed seed from germinating and protects the surface of the compost from drying out too quickly in the summer months making it easier to re-wet.

e peat-based compost allows the *Tulbaghia* roots to grow very fast indeed, and roots spiral profusely

around the inside of the pot. I have found this to be a serious drawback when re-potting as it is hard not to break the original pot, though advantageous when watering as the roots trap water within the pot. This is especially important as all the species are given full sun and are therefore subjected to quite high temperatures with the radiant heat raising the ambient temperature of the pot and the medium. Watering is done each evening during periods of hot weather. The drying and wetting process encourages flowering. The containers are fed every two weeks with a half strength liquid tomato fertiliser.

There are other advantages to using clay pots with peat-based composts. Clay pots are porous and allow the roots and compost to breathe so they never remain too wet during their dormant period. Also, there is less risk of losing them if the temperature where they are wintered falls too low and the plants are subjected to a sudden frost.

Tulbaghia are also very easy to propagate if grown in a peat-based or similar medium for it can be easily washed off allowing the individual bulbs to be exposed and divided. Usually a very sharp knife or scalpel is needed to assist in separation as some species can form very tight clumps.

#### **Growing From Seed**

*Tulbaghia* are extremely easy to grow from seed, and there is only one real disadvantage. The species may not come true to type where many varieties or species are grown in close proximity, as they readily hybridise. When sowing it is advisable not to sow too many seeds in the same pot as this can make pricking out very difficult indeed. *Tulbaghia* need to be left a while before pricking out can be done successfully because initially, a long thin fragile taproot is formed and only after 2 or 3 months does a proper root system start to develop.

*Tulbaghia* will flower from seed in just 18 months and plastic pots are best for growing them in the year preceding flowering. Plastic speeds growth because thirsty seedlings can dry out and outgrow clays very quickly. The seedlings in turn, if potted on into clays, should produce an ample supply of flowers in their second year.

#### Horticultural Guide to the Genus Tulbaghia violacea

The most common species in cultivation today is *Tulbaghia violacea* and its varieties. These include the following varieties and hybrids:

var. maritima var. robustior 'John Rider' 'John May's Special' 'Silver Lace' 'The Pearl' 'Pallida'



T. violacea

Tulbaghia violacea, formerly T. cepacea, is perhaps the species most frequently cultivated for sale. It is a relatively hardy species, the exceptions being the hybrids of 'Silver Lace', 'Pallida' and T. v. var. maritima, which must be grown frost free. T. violacea and its forms are suitable for both bedding and pot culture; indeed, potted plants will often flower from late June to early November.



T. violacea var. robustior

The largest-flowered forms of this species are those derived from the form *T. violacea* var. *robustior*. These have flowers three or four times the size of the species and are probably the result of polyploidy. Its hybrids include 'John Rider' and 'John May's Special'. Both are reasonably hardy in sheltered districts of the UK (Zone 9).

In the past, a species called *Tulbaghia simmleri* has been confused with *T. violacea*. However *T. simmleri* differs in that the perianth segments are concave, the 3-scaled corona is almost united at the base, and the ovary is ellipsoid rather than spherical as in *T. violacea*.

#### Tulbaghia leucantha

Another very common *Tulbaghia*; this species has been frequently sold mis-identified throughout the horticultural trade because it is often confused with *T. capensis*, *T. acutiloba* and *T. alliacea*, which are less common.

If *Tulbaghia* were ever divided into larger flowered and smaller flowered forms *T. leucantha* would indeed be the most frequent smaller species.

A fine and easy species to grow it forms a 10-12cm (4-5in) tuft of leaves that are between 15-30cm (6-12in) long and 2-3mm (1/8 in) across with a definite channel. Four to ten pendant flowers are borne on 10-25cm (4-10in) scapes, and their somewhat dull grey-mauve appearance and white segments is contrasted in many forms by a vivid orange corona.



T. leucantha

#### Tulbaghia capensis

This species is definitely one of the most sought-after of all the species in this genus. It is not as common as often publicized but is worthy of including in any bulb collection. The form that I grow here has purple segments with a bright orange corona and emits a most powerful sweet spicy cinnamon scent. Its leaves and habit are similar to that of *T. violacea* but is less erect, producing flowers on 60cm (2ft) arching spikes. Free-flowering from late June to November in the Northern Hemisphere, it is often shy to produce seed.



T. capensis

#### Tulbaghia fragrans

This is possibly the showiest species and one suitable for growing in zone 9 or 10. Found growing in the wild alongside Clivia miniata, it has a very sweet perfume and resembles a small Agapanthus in leaf. Leaves are strap-shaped, up to 19mm (3/4 in) wide and 60cm (2ft) long, and gracefully bend to reveal the scape. Bulbs of wild origin are reported to be found measuring up to 5cm (2in) in diameter, but some varieties in cultivation have bulbs over 10cm (4in) in diameter. The most common form has flowers of a uniform lilac colour but a white form exists, as does a pink with white corona. This plant is perhaps one with the most horticultural potential, and breeders could do little to improve it.



T. fragrans

#### Tulbaghia cominsii

This is another popular and dependable species suited to both container and rockery culture. It is indeed reasonably hardy if given some protection. It is a species that will reward the grower with continuous flowers for up to nine months of the year. Various clones exist; some are greyer in leaf, some have larger showier flowers, but all are white to cream and possess a distinct smell of cloves. Leaves are narrow and are 1-2 mm wide and slightly glaucous. The flowers sit quite tightly at the head of the spike and measure 13mm (1/2in) in diameter.

#### Tulbaghia coddii

Anybody being given this species out of season would be forgiven if they thought they were getting something different. Indeed, it is a very grass like species, and has rather soft round 1mm wide leaves that are 15-25cm (6-10in) long, and form a tight tussock. Its flower stems are fortunately four or five times thicker and produce heads of pure white flowers with a yellow corona, which shades to an olivegreen. It is another small-flowered species but one with a powerful evening scent, not unlike that of T. cominsii.

#### Interspecific Crosses

A few interspecific crosses exist in cultivation and many of these crosses are indeed easy to make. T. violacea, T. natalensis, T. coddii, and Т. cominsii are the most common species used and most crosses exhibit combination of characteristics a gained from each parent. The following photo is a cross of T. *violacea* with T. *cominsii*, which has been given the name of 'Fairy Star'. It is less robust than T. violacea, 30cm (12in) or so tall, but with open, freely arranged flowers of a very nice pale pink shade.



T. violacea x T. comensii

Looking at all the species mentioned here, it is difficult to think of another similar small genus that are as diverse in leaf, flower colour, and shape as are *Tulbaghia*.

Will it be a popular genus of the next millennium? Only time will tell, but as a small bulb for a small garden their popularity must increase. One can only hope that they eventually get the commercial recognition they deserve.

**David Fenwick** lives in the South West of England and for many years has been an enthusiastic grower of bulbs, especially those from South Africa. He has made a very detailed study of Tulbaghia and of Crocosmia and now holds the National Collections of these genera recognised by the NCCPG.

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IBS wishes to express a heartfelt thank you with much gratitude to the following persons for their donations to our Society during this past year:

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# **IBS INTERNET FORUM**

#### Past, Present, Future

#### **IBS E-mail Robin is Hatched**

On August 10, 1996 Robert Turley joined with Jim Shields to become the first two members of the IBS E-mail robin. Turley had gotten the blessing of IBS to pursue his idea of initiating an electronic forum. He had participated with Shields on the American Hemerocallis Society robin and together they agree to team up to create a similar forum for IBS. Patrick Stanton was the third to join followed by Sir Peter Smithers.

In the early days members kept a list of e-mail addresses of all the other members and messages were posted using all those addresses. As the numbers grew keeping up to date with new addresses became time consuming. Teaching new members who were often new to computers how to use the bcc (blind carbon copy) field to address their messages became even more challenging.

#### **Easier Communication**

The founders approached Dr. Robert Stanton, a faculty member at St. John's University in New York who had been instrumental in getting AHS's forum hosted on that university's listserver. With his help the IBS e-mail robin also became sponsored by St. John's and in March of 1997 the change was made. From then on communications went directly to the listserver. Along the way the name Robin was replaced by Forum. Membership has reached around 200 with 18 countries represented.

#### An Instant Hit! The BX

Jim Waddick suggested a way for members' to share their excess bulbs. Cathy Craig offered to receive these bulbs and the BX (Bulb Exchange) was created in the fall of 1998. Donations of bulbs or short-lived seeds are sent to Dell Sherk. When he has a number of items to offer, he posts the list on the forum. Those people who desire something on his list contact him privately and when all of the items are claimed, he closes the BX. There is a one-time charge of \$5 and an additional \$5 charge for each participation. The shortest BX lasted only a couple hours to the dismay of some who logged on after it had closed. Since the charge is nominal, members have found an easy way to discover new bulbs and to take a chance on things that might be listed as not reliable in their climate. BX bulbs cannot be sent to all countries, but bulbs have arrived from New Zealand and Australia giving Northern Hemisphere members an opportunity to try various methods to get those bulbs acclimatized to the new hemisphere. Since the donor is always identified, recipients can write to get cultural information and to express thanks.

#### What is "G52"?

Late in 1998 Bibbs Gambler proposed that the forum discuss a different genus each week. Thus Genra 52, affectionately known as G52, was born. Kelly Irvin offered to count votes and he heard from 38 members. Hippeastrum received the followed votes (10) bv most Zephyranthes (8), Habranthus (6), and Calochortus (4). Throughout 1999 Kelly announced each week which genus was to be discussed. The genera receiving the most votes were not always the ones generating the most discussion. Some of the welldiscussed topics for G52 were Alstroemeria, Ammocharis, Boophone, Calochortus, Cyrtanthus, Cypella,

Fritillaria, Hesperoxiphion, Lachenalia, Lycoris, Scadoxus, and Tropaeolum. Solaria was the least discussed with books pulled out to try to find out what it was. No one came forward to share experience growing it and finally Jane McGary offered to talk about her solarium, which she decided was close enough.

#### Variety is the Spice...

Over the life of the forum many subjects have been discussed. From time to time Robert Turley asks us to welcome a new member who posts information about his/her interests and location. Another ongoing subject titled, 'Braggin' about what is bloomin', brings spring and fall flowers twice a year in each hemisphere. Mike Mace once bragged about what was dormant as he counted his two-year old bulbs grown from seed. Participants have shared their favorite sources of seed. bulbs, and books; and descriptions of their visits to foreign countries. Opportunities abound to ask specific bulb questions, debate soil mixes, how much to fertilize, and to talk about pests and diseases. Will Ashburner has taught us about air-filled porosity in soil mixes and we learned of Murphy's oil soap and Scotch for mealy bugs from Marc Hachadourian and Stephen Hopkins. Patty Colville who gardens with gophers keeps a list of poisonous bulbs.

Collecting bulbs in the wild thoughtful generated some discussion, as did a recent thread about weedy bulbs we might inadvertently introduce into our gardens. The many fans of rain lilies, Crinum, Clivia, and Hippeastrum keep those topics active. Also shared from time to time are plugs for new books, favorite old books, and well reference used books. When someone sees a picture of Worsleya for the first time, we can expect that subject to resurface.

We follow *Amaryllis belladonna* as it comes into bloom and hear about Karl King's research into the history behind it and its name. Whether the topic is hardy bulbs or tender bulbs depends on what is presented for discussion.

#### **Make New Friends**

The listserver includes the e-mail of the messenger giving an opportunity for others to contact that person privately. Friendships have been made and seed and bulbs traded around the world. One exciting outgrowth of this has been meeting forum members off-line. There can be an initial shock to discover a person does not look as imagined but this rarely slows down the conversations. Forum members have been enriched by contacts with members who live within driving distance or who are visiting from afar.

#### Let's Talk: Topics for 2000

As the year 2000 approached we once again voted whether to continue G52 in addition to discussing the day to day items that come up. Even more members responded than the prior year, and expressed a desire to expand the topics to include plantrelated subjects as well as individual genus topics. All together 172 topics were suggested. Moraea received the most votes this time with 9. Crinum, Calochortus, and Haemanthus received 6. Allium, Galanthus, Oxalis, and Phaedranassa received 6. The vear 2000 started with a discussion about seeds: when to start them and how to grow them with members sharing their secrets.

Participating in the IBS e-mail forum has been a joy. That can change if you are away for awhile and choose not to set your account to nomail, then return home to find hundreds of messages awaiting you. In spite of that, some of us face all that mail rather than risk missing out on something we would want to know. We look forward to your joining our Internet community!

#### by Rod Leeds

Bulbs in the darkest, dankest time of year have always given me that extra fillip, for they defy the elements and uplift the spirits with their beautiful frailty. Of course many, if compared with their cousins that flower in spring, would be deemed rather small or dowdy. But in the short days of mid-winter, when so little is on offer, they reign supreme.

#### Climate

Over many years I have made a point of collecting cultivars and species that perform at this time. However, I must first outline the climate and growing conditions to give a more complete picture. The garden is in England approximately 52° north, just east of the Greenwich meridian and has the potential of some 8 hours of sunlight each day, but in reality the average is just 11/2 hours. In midwinter the garden is saturated, with very little evaporation and about half the days having some form of precipitation, usually rain. The daytime average is 6°C (43 F) and the night 1°C (34 F), so frost is a regular nighttime occurrence, usually not very severe, serving to clear the abundance of summer foliage and thus preparing for the pageant of another season. The strength of the wind is a mixed blessing; it brings us a maritime climate, but does buffet any plant that dares show itself at this stormy time of year. However without this surge of relative warmth we could have a much colder climate, much like Labrador on a similar latitude.

#### The Garden and Cultivation

In order to get the best from these early, or in some cases perhaps late flowering bulbs, the garden has been divided into smaller gardens to give shelter and to create micro climates to give the plants the best chance of surviving the nadir of the seasons.

The garden is on a gentle south facing slope, so any winter sun does have extra value, but it is also at the bottom of a small valley, and prone to colder nights than the surrounding land. The south facing beds backed by walls or dense evergreen hedges such as yews are particularly valuable at this time of year. If the slope of the ground can be inclined to the sun even earlier flowering may be encouraged.

In order to mitigate the effects of sodden ground the beds have been raised about 30 cm (12 in) and 4-5 mm (3/16 in) grit mixed in. The beds are also top-dressed with grit. This is aesthetically pleasing and has the bonus of keeping the flowers free of splashed mud caused by heavy rain.

In order to widen the selection, bulb frames have been constructed with removable glass lids and sliding sides to regulate ventilation. These frames are usually spoken of in terms of the control of moisture during summer dormancy, but are equally valuable in keeping the growing conditions just moist, not saturated, in the depths of winter, with the added benefit of pristine flowers. You can pamper yourself by bringing the bulb frames into an unheated greenhouse, or by transferring the bulbs to pots and growing them in the house, giving complete control of watering and ventilation. This does

encourage one to linger, especially if the windward vents are closed and the sun is shining.

Most bulb books give winter to early spring selections, which are good starting points for a collection, but this listing is never the last word, so do experiment. Growing from seed gives the grower a chance to try the progeny in differing conditions, from the protection of a pot to full exposure in the open garden. Often very helpful are the field notes from Botanical Journals like 'Herbertia' and 'The Plantsman', which can indicate exposure, slope, soil type, the availability of moisture, as well as the more obvious, like altitude and associated plants. If you have the chance to travel and explore these sites, the adaptability or otherwise of the species can be ascertained, which can give you clues to the best site in your garden.

#### Galanthus

For instance Galanthus reginaeolgae and the subsp. vernalis can be found in the Peloponnese [in Greece Ed.] and specifically the Taygetos Mountains. limestone This is an area for the ardent sun worshippers in summer, and the stark limestone mountains can appear very barren in autumn, but within this massif are permanent springs and deep gorges which offer very different conditions. ideally suited to these snowdrops. When these bulbs are grown further north, they do not need or enjoy a long period of drying and they thrive in an open guite sunny border, with good light in winter. As one grows more forms of this species the epithet 'vernalis' seems to become harder to apply. Maybe the botanists would have been

better advised to use 'hyemalis' instead, as from October through to February one form, or more, can always be found in flower. This snowdrop has a very well defined silver stripe down the centre of the leaf and the forms flowering over the solstice have quite well developed leaves. In Britain Galanthus reginaeolgae subsp.vernalis 'Alex Duguid', from the Crimea is just beginning to wane. whereas G. reginae-olgae 'Christine', a very handsome tall form, found in Eastern England some years ago, is just beginning to open on warm days. Snowdrops in general seem to need warmth to open; sunshine is not necessary but obviously a great enhancement to the enjoyment.

One of the finest snowdrops of the whole season is to be found in flower at the turn of the year. This is *Galanthus plicatus* subsp. *byzantinus* 'Three Ships'. It is of medium stature, but with large, quite globose outer segments almost crimped like seersucker, with the typical two green markings that resembles an hourglass on the inner segments. These marks may or may not be connected at the waist.



#### Galanthus plicatus subsp. byzantinus 'Three Ships'

The plant was found by John Morley in an abandoned garden, and presumably had survived from some of the many imported bulbs from Turkey earlier in the 20th Century. It seems to do best in full sun, which is slightly unusual. The garden rarely dries out to become truly desiccated, and bulbs planted in half shade do not thrive as well.

For many years gardeners have been selecting forms of Galanthus elwesii (G. caucasicus), usually glaucous grey-leaved plants that flower from October through to March. The flowers are not large but are freely produced. In the period under consideration G. elwesii 'Hyemalis', G. elwesii 'Earliest of All', G.elwesii 'Athenae' and others given by friends give very good value, again doing best in quite open situations. These will grow in half shade, but I find that botrytis can form on the leaves, because they are above ground for many months and can be damaged by storms. The disease can then transfer to the bulb. So a buoyant atmosphere helps to keep this at bay and a spray with a fungicide will also help.

Gardeners may remember these snowdrops as forms of *Galanthus caucasicus*, but with the publication of the long awaited monograph on the genus by Aaron P. Davis we find that *G. caucasicus* is an invalid name and all such plants have been included under *G. elwesii*.



G. elwesii

One of the changelings is *G. elwesii* 'Mrs. McNamara', sometimes known as 'Milkwood', because of the McNamara family's friendship with Dylan Thomas's mother. This snowdrop collected in the Caucasus many years ago by Mrs. McNamara waits until the turn of the calendar year before revealing its greater stature, some 20cm (8in) on a strong stem. As in all these forms, the leaves sheathe the flower stems until they lengthen later in the year.

It always pays with Galanthus to move and split up your choice selections as soon as possible, as the larvae of a fly or moth seems destined to find your rarest bulb first, leaving the hoi polloi untouched. The best defence is vigilance, so if the nose of a bulb is not there at the normal time, excavate carefully and check. If it is one of these subterranean larvae feeding on the bulb, you may be in time to save it by cleaning the damaged tissue, dusting with a fungicide and potting for a season or so. This is only worthwhile if some of the basal plate remains, so new roots can emerge to initiate the growth of young bulblets on the top of the plate. Even if a colony is growing well it is still good practice every three or four years to lift the bulbs when the flowers fade and replant immediately in an extended area, or better still in fresh soil where snowdrops have not been grown. This moving 'in the green' is also the best way to buy snowdrops, as they do not survive a prolonged period of drying and become virtually 'fossilised', with few able to initiate growth when planted.

#### Cyclamen

Bringing a much more vibrant colour to the garden in mid-winter are some of the species of cyclamen. In the greenhouse is the very fragrant *C. cyprium.* This will have been

flowering for weeks, but like most cyclamen, there is always a succession of flowers and they last very well in the low light and cool temperatures of winter. I believe this species to be rather too tender to chance outside, but in a greenhouse where the thermostat is set at 0°C (32 F), it is very happy. The flowers are white with little M-shaped magenta markings at the base of each petal. They are slow growing and twenty year old tubers can easily be accommodated in a 16-18cm (6 1/2in) pot. The leaves are often quite subdued in colour with a dark green background with pewter marks, but there are selections that are splashed with silver, which is very attractive. These forms seem to come reasonably true from seed and can be found in amateur seed exchanges, like the North American Rock Garden Society and in Britain the Alpine Garden Society.

In the garden and equally at home in a pot are the many forms Cyclamen coum. of With the autumnal C. hederifolium, these two species are the outstanding performers in the garden. They must be planted in drifts, or at least substantial groups to make an impact. C. coum has many named selections and forms, which are best grown in pots, SO differences can be appreciated, but for the garden mixed seedlings are ideal. In fact after a few years you will have flowers from white to the darkest magenta and every graduation in between, flowering happily from December through to March. Not only are the flowers beautiful, but the leaves vary from plain dark green, to green with silver zones, right through to completely pewter coloured forms. For best effect they should be

isolated from other plants and grown in full winter light, where the intensity of the colours can be appreciated. They do set seed regularly and profusely, so the colony can easily be enlarged, by collecting this seed and sowing in situ. If this is left to nature ants attracted to the seeds' coating may move them somewhere unwanted or bury them too deeply.

#### Narcissus

The third group of plants that will perform very well in mid winter are true bulbs and like Snowdrops are members of the Amaryllidaceae. These are forms of Narcissus bulbocodium, N. cantabricus, N. romieuxii and various hybrids. They are often referred to as the hoop petticoats and are confined to the Iberian Peninsula and the adjacent countries in North Africa. They differ from other Narcissus in having a large corona and really quite insignificant petals, with thin almost rush like leaves. They are best in a cold greenhouse or frame that is sited in full light. They love to grow in frames where the bulbs are planted in the plastic pond baskets bought for aquatic and marginal plants.



Narcissus cantabricus

These latticed pots are filled with, also plunged in, a free and draining soil mix, where the roots can spread freely in winter and spring, but come summer the grower can easily retrieve the bulbs by lifting the basket. These Narcissus thrive in such conditions, so much so that many need dividing up after just a few seasons. Alternatively they can be grown in pots on staging in a cold greenhouse. Here good ventilation is required to prevent botrytis becoming too rife.

Like so many plants it is advantageous to start with seed for available venture. from this specialist seedsmen and societies. The seed is best sown in early autumn, so germination can begin in mild weather that same year, with the consequent flowering often beginning in just two years time. It may seem a long time to wait, but once the first two years have passed, you will always have the annual pleasure of new and possibly extraordinarily good forms appearing. These bulbs are very prone to hybridise in the wild and in your greenhouse, and naming has always kept the botanist- cumgardener on his toes. If you do think a seedling is special it is good practise to dead head the flower immediately after flowering; this stops rogue seedlings occurring in the pot and also lets all the nutrients be directed to the growth of next years bulb.

At the winter solstice there is a wide selection of these Narcissus in flower and to begin I would like to describe some deliberate hybrids produced half a century ago by Douglas Blanchard from Dorset, in England. He crossed some good forms of *N. cantabricus* and *N. romieuxii* to select the 'Fabric Group' of hybrids. Two of these are

always flowering strongly at this time, notably N. 'Nylon' and N. 'Taffeta'. They exhibit typical hybrid vigour, particularly if grown in a fairly lean mix, when the pan can be completely full of their upward facing flowers. First to flower is N. 'Nylon', which can be variable as it came from a group of similar bulbs, not from just one bulb. This cross of N. romieuxii X N. cantabricus subsp. monophyllus produces pale yellow slightly wavy edged coronas, which gradually fade to cream with age. N. 'Taffeta' (N. cantabricus var. foliosus X N. romieuxii ) is my favourite. It is extremely floriferous. with white flowers that almost give a honeycomb effect with so many flowers. Both these plants begin to flower before Christmas and last well into the new year.



#### N. 'Taffeta'

More recently a cross was selected in Scotland between *N. cantabricus* subsp. *monophyllus* and *N. romieuxii* called *N.* 'Camoro'. This has large globose funnel shaped flowers of a creamy-white, up to 3.5cm (1 <sup>1</sup>/<sub>4</sub> in) across and freely produced, from bulbs that themselves proliferate quickly.

None of the *N. bulbocodiums* can compare with *N. cantabricus* subsp. *monophyllus* for the purity of white that is of an almost crystalline appearance. The form I grow is quite short, barely 15cm (6in) with what appears to be too much foliage for the name 'monophyllus' to be true, but inspection in summer soon reveals the bulbs being very prone to splitting, with the consequent proliferation of leaves. The leaves are a mid-green and quite thin. The pure white flowers have protruding anthers and stigma. If any of the hoop petticoat narcissus is grown in the open garden flowering takes place in spring.

Lastly is a narcissus that deserves a place in every garden, N. minor 'Cedric Morris'. Sir Cedric Morris was an artist who travelled widely either side of the Second World War in the Mediterranean basin, combining a love of plants with his painting. A friend who found it flowering in November collected the narcissus bearing his name at the Costa Verde in Northern Spain. In Britain it usually flowers a month later. always managing a few flowers for Christmas and looking perfect for the new year. Unlike the hoop petticoats it does not require to be grown under glass but thrives in raised beds in the open garden. It does require to be regularly lifted and split up to remain in good condition. The stem is 20-25cm (8-10in) tall with the typical N. minor flower held horizontally. The flower is bright yellow with the green of the ovary spreading on to the perianth segments as far as the point where the segments bend outwards to encase the corona. The mouth of the corona is very frilled and puckered and about 2cm (3/4 in) in diameter and the whole flower about 3cm (1 1/4 in) long. The plant is quite outstanding in its ability to withstand the winter storms and frosts and still stand upright on the first bright day. The stem gives a clue to this ability as it is

octagonal in section, rather like *Iris* bakeriana, and seems to give it the additional strength required to bounce back time and time again. This is a truly outstanding plant for the winter solstice.

#### Crocus

No look at winter plants would be complete without at least one Crocus. One very reliable performer for the open garden at the very end of the year is C. laevigatus 'Fontenayi'. This form has been in cultivation for at least thirty years, as the Dutch bulb merchants Van Tubergen listed it in the early 1970's. The origin of this form seems lost at present, but it is a reliable performer from November until January. In Greece C. laevigatus is very variable in colouring and time of flowering, and can be found blooming from October through to March. C. l. 'Fontenayi' has lilac segments with purple stripes, colours which may be found in specimens on Euboea [Greek Island in the Aegean Ed.] and on some of the smaller islands to the South East of it.

This plant typifies the pleasure to be derived from the mid-winter garden, when the temptation is to hibernate in front of a log fire and merely to read about it!

#### Rod Leeds

Rod Leeds is a recently retired headmaster who has been a bulb and alpine plant enthusiast for many years, and has just completed a book 'The Plantfinder's Guide to Early Bulbs', to be published by David and Charles and Timber Press within the next month. He is a very successful exhibitor at the Alpine Garden Society Shows and he is serving on the AGS Committee, and on the Joint Rock Garden Plant Committee and Judging Committees of the RHS.

# INTERNATIONAL BULB SOCIETY NEWS

#### **REGIONAL MEETINGS HELD**

#### **Rod and Rachel Saunders visit**

In June of 1999 Rod and Rachel Saunders of South Africa scheduled a visit and talks in Northern California. IBS members were able to communicate through the Internet Forum and to attend some of those talks. John Bryan was kind enough to offer his house in San Francisco as a place to meet Rod and Rachel.



Bob Rutemoeller, Mary Sue Ittner, Rod & Rachel Saunders at California Horticultural Society Meeting in San Francisco

The following night some of the same people who visited at John's were joined by others for a walk, dinner, and to enjoy the excellent lecture and slide show Rod gave to the California Horticultural Society. Those who attended found the opportunity to get together so much fun that they expressed an interest in meeting again.

#### Will & Chris Ashburner visit too

Will Ashburner, another member of the IBS Internet Forum who lives in Australia, came to the United States for six weeks with his wife, Chris, in September and October of 1999. Will and Chris were welcomed by many IBS members from Southern and Northern California and also from Oregon.



Will & Chris Ashburner in California Garden

In Southern California seven Internet forum members were joined by spouses and friends at Cathy Craig's house in San Clemente. People brought food to share with each other.



Angela Campbell, Lee Poulsen, Ray & Marguerite English at Southern California meeting

Cathy Craig and Harold Koopowitz had many wonderful bulbs in bloom to show the group. Later in the evening, Will presented a slide show featuring Australian geophytes. All present thought it a good start for a future regional group.



Andrew Wilson Harold Koopowitz & Will

#### Northern California Meeting

A few weeks later in Northern California 22 adults, three children, and four dogs all got together at Jana and David Ulmer's house in Sebastopol for a fine afternoon and evening to meet Will and Chris and to share their love of bulbs. Seeds and bulbs were exchanged and fine food and conversation was enjoyed.



Roy Sachs, Penny Knapp , Chris, Jana & David Ulmer at Northern California meeting



Joyce Miller gets help from John Bryan on her landscape plan at the Northern California meeting

Will completed the evening with a slide show and demonstration on how to test the air-filled porosity of a potting mix. Everyone present had a wonderful time.



Kristin Jakob shares a happy moment with Wayne Roderick at Northern California meeting

#### Great Lakes Bulb group

The first meeting of the Great Lakes Bulb group was held on Saturday, November 20, 1999, in Westfield, Indiana. The 8 to 10 in attendance were very happy to get to see each other face to face and talk about bulbs!

After a buffet lunch, the group discussed the future of the Great Lakes Bulb group and looked at a slide show provided by Boyce Tankerslev and Jim Shields. Although no formal organization with officers was established, the group has found a way to communicate with each other through the [Internet] Great Lakes Bulbs list on Onelist.

As we go to press this group has announced a second meeting on April 22, 2000, from noon to 5 p.m. at the Chicago Botanic Garden, Glencoe, Illinois. The agenda is not set, but it is probable that a tour of the bulb displays in the garden and a slide show will be included.

#### Rod and Rachel return

Rod and Rachel have scheduled a return trip to the United States sponsored by the North American Rock Garden Society. They are scheduled to give talks Saturday June 17 in Asheville, NC; Sunday June 18 in Alexandria, VA; Saturday June 24 in Philadelphia, PA; Sunday June 25 Ithaca, NY; Wednesday June 28 in Salt Lake City, Ut; and Wednesday July 5 in Denver, Co.

IBS members who live in those areas are encouraged to find a way to meet.

Photos provided by David Ulmer, Cathy Craig, and Bob Rutemoeller

#### **Bulbophiles around the World**

#### From New Zealand



Tony Palmer



Ian Gardner



Bill Dijk

#### From Northern California and Oregon



Dave Lomba



Diana Chapman



Georgie Robinett



Jim Robinett



Gary Buckley



**From Australia** 

Malcolm Thomas



Geoffrey Burnie



Jim Duggan

#### From Southern California



Patty Colville



Cathy Craig

Most of these are pictures of people I have met through the IBS Internet Forum, but there were a few I knew before I joined. Most of the pictures are mine, but a few were taken at Regional meetings and provided by Roy Sachs and Cathy Craig---Mary Sue Ittner

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#### Geophytes as Cut Flowers

#### by Linda Dodge

flowers The produced by geophytic plants have always been prized for their color and elegance. Whether grown in home gardens or purchased from commercial sources, they are always valued in cut arrangements in the home. Maximum enjoyment of geophytes flowers depends as cut on providing the right combination of ingredients in the vase solution. These, in turn, are dictated largely by how many flowers and buds are present on the cut stems. It noted that should be these suggestions are general in nature and that there are exceptions in every genus.

Species that produce one flower per stem usually do not require much more than good quality water for satisfactory vase life. Adding household bleach to the water at a rate of one-quarter teaspoon per quart will reduce the growth of bacteria and fungi. With this vase solution, flowers of Anemone, Cyclamen, Narcissus, Ranunculus, Tulipa and Zantedeschia will last from seven to ten days.

Cyclamen is not widely available commercially as a cut flower but there is interest in developing longstemmed, scented cultivars for this purpose. Many new colored forms of Zantedeschia are now available for cut flower production with colors in the yellow, orange, pink and purple ranges.

Freshly cut stems of Narcissus tend to release a slimy substance (mucilage) into water, which is said to have a negative effect on other flower species. To avoid this effect, Narcissus flowers can be held temporarily in separate containers before combining with other flowers in mixed bouquets.

Cut stems of Iris, particularly commercial Dutch iris, have up to three flowers per stem but usually only one flower blooms well. Iris flowers have notoriously short post harvest lives, remaining decorative for only three to five days. They do not respond to vase solution additives and are the first flowers to die in mixed bouquets. They are in great demand, however, for their blue and purple colors and elegant form. There is considerable scientific research underway to improve the life of Iris flowers using the techniques of molecular genetic manipulation.

Geophytic species that produce multiple flowers per stem may pose more of a challenge for those wanting maximum cut flower longevity. The presence of several to many showy flowers on a single stem may require the addition of supplemental carbohydrates (sugar) to the vase solution to ensure maximum opening and color retention. Amaryllis, Convallaria, Crinum, Hippeastrum and Narcissus (multi-flowered types) do not seem to benefit from the addition of sugar, and the simple bleach solution detailed above is sufficient to make these flowers last for one to two weeks.

The vase life of Agapanthus, Allium, Freesia, Lilium, Nerine, Triteleia, and Brodiaea is significantly improved by the addition of sugar (1-1.5% by weight or one-third to one-half ounce per quart of water) to the vase solution. The presence of bleach (one-quarter teaspoon per quart) is important to reduce the growth of microbes that would also use the sugar as a food source. Any of the commercially available floral preservatives (or "fresh flower foods") will also do the job, as they contain similar ingredients.

The popular and versatile Alstroemeria is somewhat of an exception in that the presence of sugar in the vase solution may benefit the flowers but intensifies the leaf-yellowing that often occurs with this cut flower. There are commercial preparations designed specifically for Alstroemeria that include the hormone, gibberellic acid, which seem to overcome this problem.

Some geophytic species produce spike-type inflorescences that usually contain many unopened buds when harvested for use as cut flowers. The practice of "pulsing" freshly cut stems by holding them in water containing 20% sugar by weight (6 ounces per quart) for 18-24 hours is frequently done by commercial Gladiolus growers. This loads up the stem with carbohydrates to fuel the opening and development of buds in the same way as a bicyclist eating large amounts of pasta the night before a big race. This practice, combined with the use of a floral preservative (or the sugar and bleach solution detailed above), will ensure the maximum decorative life for species such as Chasmanthe. Crocosmia. Eremurus, Galtonia, Hyacinthus, Ixia, Muscari, Ornithogalum, Polianthes, Scilla, Sparaxis and Watsonia. Buds will continue to open along the stem and flowers will retain their color for ten to fourteen days.

Unfortunately, there are some species of geophytes whose ephemeral nature precludes them from being used as cut flowers.

The flowers of Dietes, Hemerocallis and Tigridia usually last only one day and do not respond to any vase solution supplements. Here again, researchers are using the techniques of molecular genetics to identify the mechanisms involved in this type of senescence, using daylily as a model. The process may involve the breakdown and absorption of proteins so investigators are looking at ways to slow down or turn off the controlling genes involved. The result may mean that daylilies will someday require a different common name.

Recent trends in commercial cut flower sales have shown an increasing interest in "specialty cut flowers" over the more traditional roses, carnations and chrysanthemums. Breeders and growers are hungry for new species that will satisfy this demand for novelty. Sandersonia and Leucocoryne are examples of geophytes that have now joined the ranks of commercial cut flowers. As long as propagation of new species is done in a responsible manner, it is gratifying to know that more people every day are being introduced to the beauty of geophytes as cut flowers.

Single flower per stem	Vase life (days)	Multiple flowers per stem	Vase life (days)	Spike inflorescence	Vase life (days)
Anemone	5-10	Agapanthus	7-14	Chasmanthe	7-10
Cyclamen	7-10	Allium	7-14	Eremurus	7
Dahlia	5-8	Alstroemeria	10-14	Galtonia	10
Iris	3-5	Brodiaea (=Triteleia)	10-14	Gladiolus	10-14
Narcissus daffodil)	4-6	Lilium	10-14	Hyacinthus	7-10
Ranunculus	5-7	Nerine	10-14	Ixia	7-10
Tulipa	7-10	Freesia	7-10	Muscari	4-6
Zantedeschia	10			Ornithogalum	14-16
		Amaryllis	10-14	Polianthes	10-14
		Convallaria	4-6	Scilla	7-10
		Crinum	10-14	Sparaxis	5-7
		Hippeastrum	10-14	Watsonia	7-10
		Leucocoryne	10-14	Crocosmia	7-10
		Narcissus	4-6		

#### Well Versed by Lisa Flaum

#### "One for facts, one for ideas, one for amusement and one for ecstasy"

So wrote British gardener Anne Scott-James in "Gardening Letters to My Daughter". Mrs. Scott-James was pondering what four books she would suggest for a beginner, someone ignorant of gardening, but willing to read and learn. Since it really wasn't that long ago that I was in her daughter's position, I was intrigued by the idea. What four books do I wish I'd had, way back when I planted my first daffodil? My choices are necessarily slanted by my circumstances. I live in the center of North America, with potentially cold, snowless winters, and hot, humid, potentially dry summers. Plants must survive outside, year round, in fairly challenging weather. So, here are my top four choices.

#### One for facts

For facts, I suggest The American Horticultural Society's A-Z Encyclopedia of Garden Plants. With over 15,000 plants and 6000 photos, this book can help you select both the narcissus and what to grow with them. It is the only general book I have that has listings for herbertia and tecophilaea. Plants are listed by genus, starting with a followed description, by general sections on cultivation, propagation, and pests and diseases, followed by an alphabetical list of species and cultivars. All the plant types are listed together, so you don't have to decide if what you are looking up is a bulb or a perennial, a shrub or a tree. Don't underestimate the usefulness of this for Dicentra cucullaria, feature. listed under may be instance, perennials in one book, under wildflowers in another and under With A-Z the bulbs in a third. call is unnecessary. judgement Information is brief but useful and there are lots of pictures. This book is an Americanized version of The Royal Horticultural Society's A-Z Encyclopedia of Garden Plants.

#### One for ideas

This one was hard, but I have settled on The American Gardener's World of Bulbs by Judy Glattstein. Ms. Glattstein gardens on the East Coast of the US and most of her recommendations work best in that climate. Her book is about integrating bulbs into the garden yearround. It is designed to lead the reader through the seasons, showing bulbs with woodies and perennials that bloom at the same time. There are lots of pictures, most of bulbs in their garden settings. There are very few close-ups, though the photo of Eucomis bicolor sent me looking for that bulb. Though she treats it as tender, it turns out that it can be hardy in my area. We shall see. Another of my favorite photos was taken at Great Dixter of Colchicum speciosum 'Album' blooming through low-growing Artemisia alba 'canescens'. I really need to find a place for that combination. None of the bulbs Ms. Glattstein talks about are hard to find and after reading this book you will start looking for them.

#### One (group of three) for amusement

This, on the other hand, was fairly Henry Mitchell gardened in easy. Washington, DC. He was a man of firm opinions: on gardening and dogs, Shakespeare and Thomas Jefferson. For many years, he wrote an equally opinionated gardening column for the Washington Post. These columns were collected into three books. The Essential Earthman, One Man's Garden, and Henry Mitchell on Gardening. Mr. Mitchell delivered his advice and opinions with a smile. For instance, in "Earthman", he are ice suggested "Whenever there storms, pull the window shades down." He encouraged gardeners to begin early in their career to plant bulbs. Even two or three of a bulb is enough for a start. After all, in five or six years, "the Lord only knows how many bulbs I will have." He exhorted his readers not to be fooled by the great empty spaces of spring, though he admitted he often was. His list of gifts for the gardener included bricks, copper sheeting and a bag of manure.

I can't read any of his books without wanting to start quoting him. On poisonous plants: "It is startling that people accept that war, automobiles and power mowers are ordinary hazards, but begin to fidget if there is a colchicum somewhere, as if it might attack or poison one while dozing". On pesticides: "Any rose that can't make it without sprays is a wretched weakling." On garden design: "It is not important for a garden to be beautiful. It is extremely important for the gardener to think it is a fair substitute for Eden." So, which book do I suggest you get first? Get whichever you can, as having read one you will soon get the others. Unfortunately, these three books are all there will be; Mr. Mitchell died in 1993, helping a neighbor plant daffodils.

#### One for ecstasy

My all time favorite bulb book, perhaps my all time favorite gardening book, is The Little Bulbs: A Tale of Two Gardens by Elizabeth Lawrence. Miss Lawrence, a recipient of the Herbert Medal, was a gifted writer and a passionate gardener. She gardened in North Carolina and wrote from her experience in trying to grow, in the open garden, anything that she could get her hands on. Her book has the feel of a long letter, with lots of references to mutual friends, both plant and human. She corresponded with many other gardeners and relates their experiences as well as her own. In particular, she relates the experiences of Mr. Krippendorf, of Ohio, with whom she corresponded for many years. Consequently, the book has cultural value not just for the middle south of the US, but north through zone 5. She covers most of the little bulbs available at the time (1940s and 50s), snowdrops and snowflakes, crocus, colchicum, squill, narcissus, the iris, and lily families and some amaryllids.

The cultural information is sound, but it is not just for information that I value this book. Miss Lawrence introduced me to the little bulbs, to crocus that bloom in February, to snowdrops and tiny tulips. She suggested alliums and fritillaries. She recommended the books of Louise Beebe Wilder and the merchandise of the Heaths of Virginia. She convinced me of the necessity of gardening records.

This book is one of the great treasures of garden writing. You will enjoy it, regardless of where you live.

#### The Books

American Horticultural Society A-Z Encyclopedia of Garden Plants DK Publishing; ISBN: 0789419432 Hardback \$79.95

The American Gardener's World of Bulbs Judy Glattstein, Little, Brown and Co. ISBN: 0316315931 Hardback \$24.95

*The Essential Earthman* Henry Mitchell, Mariner Books ISBN: 0395957680 Paperback \$14.00

One Man's Garden Henry Mitchell, Mariner Books ISBN: 0395957699 Paperback \$14.00

Henry Mitchell on Gardening Henry Mitchell, Mariner Books ISBN: 0395957672 Paperback \$14.00

The Little Bulbs

Elizabeth Lawrence, Duke University Press ISBN: 0822307391 Paperback \$16.00

[Note: Prices are stated at full retail, Ed.]

#### Lisa Flaum

Lisa gardens on a three-acre homestead in the woodlands of Southern Illinois that she shares with her family and 3000



"In books. spring and fall Ι acquire plants and in summer and winter, Ι acquire books. Sometimes, T food." buy Favorites include hardy bulbs.

penstemons, maples, oaks, junipers, and anything with really gaudy flowers.

# **Dear Fellow IBS Members**,

The Awards and Recognition Committee is requesting nominations from IBS members for the Herbert Medal and the Hamilton P. Traub Outstanding Service Award.

The Herbert Medal is the highest honor the International Bulb Society can bestow upon an individual for meritorious achievement in advancing the knowledge of bulbous plants.

Nominees for the Herbert Medal shall be individuals who have made significant contributions, whether botanical or horticultural, in the form of the written word or in germplasm. They may be researchers, field collectors, hybridizers, plant explorers, conservationists, chemists, plant pathologists, scientists, botanist, horticulturists or lay people. In short, any person from any walk of life who makes a significant contribution to geophytic plants, or to the horticultural world, and has enriched and made a lasting impact thereon, can be nominated.

The Hamilton P. Traub Distinguished Service Award was created to recognize outstanding service to our Society, by a member or friend of the Society, in support of the goals and activities undertaken by IBS.

When sending nominations, please include name, address, city, state, zip, email, and phone number if available. Please state why your nominee is qualified to receive the award and send all pertinent information to:

Herbert Kelly Jr. IBS Awards and Recognition Committee 10266 E. Princeton Sanger, CA 93657

Phone: 559-294-7676 Fax: 559-294-7626 Email: HKellyJr2@aol.com

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