

Snowdrops - What's the Fuss?

By Mark Smyth

Editor's note: Mark lives in Northern Ireland (zone 8b), which is warmed by the Gulf Stream. Winters are relatively mild although the temperature can hit -10C/14F. He grows about 200 species and cultivars of Galanthus in 3 raised beds - soon to be 5 - and a rock garden. Along with them are dwarf Narcissus and species Crocus. Small growing hardy Geraniums and Ranunculus ficaria cultivars line the bed edges for added colour. In the greenhouse and sunroom he grows Pleiones, Lachenalia and tuberous Pelargoniums. Mark is also a trained bat worker, which takes up many hours in the summer. He is always watching for plant swaps. Mark's photos are shown on page 2, in the order mentioned in his article. You can see other pictures of his garden at: www.snowdropinfo.com.

Galanthus, Greek meaning Milk (Gala) Flower (-anthos), grow across Europe into Russia. The genus contains 19 species of which only a few are well known in cultivation. Snowdrop fans (called Galanthophiles) have managed to find and name over 600 cultivars with many more grown but not officially named. 1000 was mentioned at a recent Snowdrop Lunch. They may be named after the place they are found as in *G. nivalis* 'Blewbury Tart', in memory of someone as in *G. plicatus* 'Sophie North' or just by word association. For example Alan Street of Avon Bulbs named *G. 'Ding Dong'* (Ding Dong, Avon Calling!!)

Galanthus come with three leaf types. *G. elwesii* shows a convolute form with one leaf wrapped around the other. *G. plicatus* demonstrates the plicate leaf with the leaf margins turned in. *G. nivalis* emerges from the ground in the spring with its leaves facing each other - an applanate leaf type. *Galanthus* with *nivalis* and *plicatus* in their 'blood' often have one leaf showing slight plication.

Snowdrops are a harbinger to spring for the ordinary gardener but a Galanthophile knows better. Snowdrops usually begin to flower in late October. The best known of these early Snowdrops is *G. reginae-olgae*, which is named after Queen Olga from Greece. *G. peshmenii* flowers at this time also. Both of these bulbs flower without or with just a hint of their leaves. Depending on where you live, *G. elwesii* 'Remember Remember' flowers later in November. Not so for us living in the Midlands and North. *G. plicatus* 'Three Ships' sings its theme: 'I saw three ships come sailing by,' about Christmas or earlier depending on the weather. There is then a trickle of snowdrops flowering from

early January, again depending on location, and beginning with *G. elwesii* 'Hayden'. By mid-January, I usually have 15+ cultivars flowering. Have you ever picked a posy of snowdrops and brought them inside in an eggcup vase? Their sweet smell is like honey. *Galanthus x allenii* has a scent just like bitter Almonds. *G. nivalis* 'April Fool' is about the last snowdrop to flower.

"They are just white flowers with green bits!"

I hear you say! There are 'yellow' snowdrops available out there if you don't mind forking out a bit more for them. More on prices later. 'Yellow' snow-drops have regular white petals but the green marks including the ovary, and sometimes the leaves, are yellow or at least a very pale green. There are three well-known snowdrops in this group. *G. nivalis Sandersii Group*, *G. nivalis* 'Lady Elphinstone', a double which huffs when moved and reverts back to green for a year or two, and *G. plicatus* 'Wendy's Gold'. The most stunning 'yellow' is *G. plicatus* 'Bill Clarke'. *G. nivalis Sandersii Group* is the most readily available but can a bit difficult to keep going. Other 'yellows' include *G. nivalis* 'Blonde Inge', *plicatus* 'Primrose Warburg', *nivalis* 'Ray Cobb' and 'Spindleston Surprise'. The other extreme growth pattern shows an almost all green flower e.g. *G. nivalis* 'Virescens' or *G. nivalis* 'Sandhill Gate' which is pure white and lacking the green inner markings.

How much will I expect to pay?

This depends on how much you are willing to pay or how deep your pockets are. Expect to pay around £3.50 or \$6 for a readily available snowdrop like 'S. Arnott' and up to £30 or \$54 for one that is in high demand such as 'South Hayes'. The average bulb is about £10 or \$18.

What about mail order?

By far the biggest suppliers of named snowdrops are the mail order companies: North Green and The Snowdrop Company. On the Internet, bulbs can be obtained from many individuals and gardens. I would recommend Paul Christian, Broadleigh, Avon Bulbs, Colesbourne Park, Judy's Snowdrops and Pottertons. In the US, Hitch Lyman issues a list every January. You can get this by sending \$3 to The Temple Nursery, PO BOX 591, Trumansburg, NY 14886.

THE BULB GARDEN

Volume 3 Issue 1

Winter, 2004



Galanthus Nivales 'Blewbury Tart'



Galanthus plicatus 'Sophie North'



Galanthus Ding Dong



Convolute Leaf



Plicate Leaf



Galanthus elwisii 'Hayden'



Galanthus plicatus 'Bill Clarke'



Galanthus plicatus 'Wendy'



Galanthus reginae 'Cambridge'



Anne Rametta



Carla Lowe



Galanthus virescens

Predicting Bloom Dates for

Garden Bulbs – Part 2

By Roy Sachs

Editor's note: Roy is Professor Emeritus, Department of Environmental Horticulture, University of California, Davis; where he taught applied plant physiology and did research on control of flowering, drought, salt and freeze tolerance, and short rotation forestry for biomass accumulation. In 1990, he began a nursery that specializes in the production of Alstroemeria and a few other geophytes. Web site: <http://www.buy-alstroemeria.com>; e-mail rmsachs@ucdavis.edu. This is part two of a two part series. The previous article discussed heat units related to bloom dates.

How Do the Spring Bulbs Know When To Make Their Moves?

Many bulbs appear to have temperature sensitive systems that tell them when to sprout roots, when to elongate stems, when to sprout leaves, when to flower, and finally when to stop growing and become dormant. Dormancy is most commonly discussed for seeds, buds and bulbs when plants are not actively growing. Plants may remain dormant even though environmental conditions are favorable for growth. Spring blooming bulbs purchased from a nursery should be planted in the fall when they are fully dormant, or at least when they seem dormant. In fact, provided adequate moisture in the soil, many bulb species quickly develop embryonic leaves and flowers, and roots emerge from the basal plates. Therefore, the term dormancy is not applied to the entire bulb. Dormancy primarily refers to the shoot system.

After roots form, the apical buds may enlarge and stems may grow until they are just beneath the soil's surface. Stem growth is often stopped when the soil temperatures are near freezing, but even when it is not freezing, they cease 'growth' until a certain chilling requirement has been satisfied.

Shoots of spring blooming bulbs start to grow when temperatures rise in early spring (which can be late February in some parts of California), then they flower, eventually die back and again become dormant. Some bulbs like tulips, hyacinths, and crocus in milder winter, say sub-tropical, climates similar to that of southern California, should be lifted in the spring, stored dry and chilled for several weeks in the early fall before planting.

Many Narcissus, Freesias, Gladiolus, Nerine, and Watsonia (some spring, summer or fall flowering)

have a relatively short or no chilling requirement and need no special treatment in sub-tropical climates.

Chilling unit requirements, measured in hours or weeks, between 32 and 50 F are known for some species. For others where research data is lacking can be inferred through garden observations. Many observations on biochemical processes and plant growth regulator levels during the course of chilling have been recorded for some of the commercially important bulbs. However, these correlations do not adequately explain why growth begins when the chilling requirement is met. Growth regulators may promote growth of a dormant bulb but the resultant growth is not equivalent to that following chilling. It's as if chilling causes far-reaching physical and chemical changes that cannot yet be understood and for which there is no adequate substitute.

Base Temperature for chilling.

If the ambient temperature is below 7 to 10° C. (45 to 50° F; the exact temperature appears to be a function of species) the processes terminating dormancy commence in geophytes. The lower threshold for chilling is usually between 0 and 2° C (32 to 36° F). In some species when temperatures are below 2° C, the physiological effect of chilling is reduced or stopped.

Many tulip varieties require bulb storage at temperatures below 9° C (48° F), for up to six weeks (approximately 1000 hours) for best development in the spring (Rees, 1972). Several contributors to the Pacific Bulb Forum claim that the failure of many tulips to naturalize in many areas of California may be related to marginal chilling unit accumulations. This seems to be the case for Davis, CA (see Table below) where in five of the seven most recent years for which data were collected the cumulative chilling fell below 1000 hours.

Cumulative Chilling Hours, 0 to 7 C°,

(November 1 through February 28, 1995/96 to 2002/03, Davis, CA)

'02	'01	'00	'99	'98	'97	'96
798	1299	759	1193	711	765	537

For warm areas, chilling requirements of bulbs can be met as follows: lift them in the summer, then store them dry (packed in peat or straw) in a

THE BULB GARDEN

Volume 3 Issue 1

Winter, 2004

refrigerator at 4° C (39° F) for eight weeks before planting.

In many parts of California relatively high temperatures are common in May often above the 17 to 20° C (63 to 68° F) optimum for tulip flower initiation and development cited by Rees. For example, in Davis in 2003, day temperatures above 20° C were recorded daily after May 5. This may be the reason why most of the large flowering, big bulb tulip varieties do not naturalize in Davis.

Treasurer's Report: 2003

By Jennifer Hildebrand

Checking Balance 1/01/03	2,991.59
INCOME:	
Members US	860.00
Members Intl	150.00
Total Memberships	1,010.00
Donations	34.92
SX/BX	3,515.07
Advertising - The Bulb Garden	60.00
Group orders: Books	1,264.95
Bank credit (bank error)	3.59
Adjustment	17.95
Total Income	5,906.48
EXPENSES:	
Admin & Genl O/H	0.00
Publications - The Bulb Garden	1,120.16
SX/BX	1,032.04
Advertising	115.00
Bank fees	28.40
PayPal fees	13.07
Group orders - Timber Press	851.48
BX credit	46.00
Attorney's fee	100.00
Reimbursement	55.95
Total Expenses	-3,362.10
NET INCOME	2,544.38
Checking Acct Bal 12/30/03	5,535.97

Fall Meeting Held

By Lee Poulsen

On November 22, 2003 PBS members and friends converged once again on the home of Cathy Craig, PBS President, and John Hancock, her husband for a wonderful time of food, plant talk, and a bulb auction. Several members donated plants for the auction. Some of the

contributions were very rare, including several lots of *Paramongaia weberbaueri* and several large pots of mature *Brunsvigias*. (I didn't win the bid on these, so consequently didn't get to take a pot home with me.) One of the bulbs that Harold Koopowitz donated was a yellow *Amaryllis belladonna*. Charles Hardman donated the preponderance of the bulbs. We split the proceeds from Charles' donations. The balance of the auction proceeds went to PBS and amounted to \$250. Thank you to all who donated and participated. It was great fun!

Various people brought show-and-tell flowers, including a number of different fall-blooming *Narcissus* hybrids of various sizes, shapes, and colors. Cathy's mother Phyllis Ferguson had several small plastic trays full of various micro-miniature *Sinningias* to show off. A fun time was had by all as we ate, talked about bulbs and plants in general and depleted our bank accounts during the auction. Pictures taken at the get-together can be viewed on page 5 with additional pictures on the PBS wiki at: <http://www.ibiblio.org/pbs/pbswiki/index.php/Miscellaneous>.

The next dinner is tentatively scheduled for May 2004. We are planning another bulb auction just before dinner and a question and answer discussion on cultural information for the bulbs auctioned following dinner. Everyone is invited. If you plan to attend the next dinner and auction, please write Cathy Craig, PBS president, at CathyCraigEA@hotmail.com.

PBS Officers

President	Cathy Craig	cathycraigea@hotmail.com
Vice Pres.	M. English	meenglis@cts.com
Secretary		
Treasurer	Jennifer Hildebrand	theotherjen8@yahoo.com
List-Serve Administrator	Mary Sue Ittner	msittner@mcn.org
Membership	Pat Colville	pat.colville@jameshardie.com
BX director	Dell Sherk	dells@voicenet.com
Newsletter Ed.		

THE BULB GARDEN

Volume 3 Issue 1

Winter, 2004



John Hancock



Phyllis Ferguson, Cathy Craig



Charles Hardman



Chuck Schwartz



Erick Lux



Harold Koopowitz



Karen Muir



Mike Brewer



Pat Colville



Steve Hampson



Susan Mulqueen



Tom Glavich

THE BULB GARDEN

Volume 3 Issue 1

Winter, 2004

Please consider donating your extra plant material when you divide or harvest. Donors get a credit for postage on their future BX orders every time they contribute. Send clean, clearly labeled seeds or bulbs to: Dell Sherk, PO Box 224, Holicong, PA 18928, USA.

Forum Report

By Mary Sue Ittner

Our PBS list now has 241 subscribers. The wiki continues to have images and information added to it and participation from new contributors. Folders have been created on the wiki files page for the genera with the most images.

Copyright, 2004

The Bulb Garden

The Bulb Garden is the newsletter of the Pacific Bulb Society (PBS). It is published the third week of each quarter and is available to Bulb Society members. This newsletter provides gardening or bulb related articles, news of interest to members and announcements of the PBS organization.

Editor: Marguerite English

meenglis@cts.com



Pacific
Bulb
Society

-gardening with bulbs-