International Rock Gardener

ISSN 2053-7557



Number 62 The Scottish Rock Garden Club February 2015



February 2015 This is the time of year in the northern hemisphere when our thoughts are buoyed by the increasing evidence of spring flowers and many of these are "bulbs" in the widest sense. The passion and fashion for *Galanthus* continues unabated so we thought a report from landscape architect and galanthophile Hagen Engelmann, from Cottbus in Germany on some of his favourite snowdrops, which are not "just white" was appropriate. Christophe Ruby, from the Hof Botanical Garden, again in Germany, makes a plea in his article for more enthusiasm for a plant he considers to be too often overlooked for use in our gardens. Finally, Wim Boens, the Belgian plantsman so active for the VRV provides an update to his previous article on the Genus

<u>Eranthis</u>. Yes, this is an issue of IRG heavy with "bulbs" – if you are feeling this to be an overload then we invite you to submit a piece on a plant that interests *you*!

Cover picture: Galanthus 'Grüne Weihnacht' by Hagen Engelman.

---World of Bulbs---

Opportunity of Choice Text and photos by Hagen Engelmann, kindly translated by Bettina Metcalve.

A hundred years ago, it might have been rather difficult to come across a green snowdrop. However, identification was easy, as there was only one, *Galanthus nivalis* 'Virescens'.

It had been found in Austria and was initially cultivated in the Botanical Garden in Vienna. Prior to 1880, Max Leichtlin from Baden-Baden in Germany passed it on to Harpur-Crewe and James Allen in England. It held a unique position in Great Britain for almost a century; it remained scarce, and was out of reach for most collectors. This was due not only to the price but also its reluctance to propagate. [Ed.: Even today it is surprising to find only two suppliers listed for this plant in the RHS Plantfinder.]



In the nineteen-sixties, another green *Galanthus nivalis* appeared on the scene. Back then it was given the name 'Bacherwiese'. Fritz Kummert had discovered a single plant in the foothills of the Laitha Mountains in Austria. This snowdrop became hugely successful in British gardens and has recently been reintroduced to the continent under the name 'Greenish'.

Ed.: left, the plant that was 'Bacherwiese' is now 'Greenish' but it is still grown in Sweden, known by its Maucherbach connection!

Photo by Owe Jaktlund



G.'Rosemary Burnham' photo by Jane Rowlinson

Just before the turn of the millennium, 'Rosemary Burnham', another green snowdrop appeared, this time a *Galanthus elwesii*. It had already been found in Canada in the nineteen-fifties, but it took some time before it was finally established in Europe. The advent of twin-scaling guaranteed successful propagation.

It appeared to be a futile endeavour for the provincial German galanthophile to access green snowdrops. It was practically impossible to purchase them; it seemed a hopeless undertaking. If there was no way of getting a well-known green snowdrop, maybe one could come up with an alternative. Maybe it was about finding new ways of proceeding.

Fortune favours the brave! Once one green snowdrop had been found, why shouldn't others be found?

We approached our search systematically, and tenaciously followed up all the information we could find on snowdrops in parks, gardens and graveyards without omitting the drifts of naturalized plants that we already knew about (in Germany there are virtually no natural occurrences). We found many, very beautiful nooks with snowdrops, as well as spruced-up gardens, overgrown parks, enchanted graveyards and dingy rubbish tips, all appearing in connection with human settlement. Not a single green snowdrop was found. Slowly we acquired an eye for the great variety of shapes of the tepals, for the form and colour of the ovary, for the length of the pedicel and the shape and colour intensity of the petal markings. In short, the many characteristics that can make a snowdrop flower so interesting. In 2008, luck was finally with us. In a miserable wilderness on the edge of a small village, in the midst of a dense patch of nettles, numerous green flowers were found, shimmering. We were overwhelmed with joy: 'Grüner Splitter' (Green Shard) was found.



Galanthus 'Grüner Splitter'

This is similar to the classical *Galanthus nivalis* 'Virescens'. It does, however, divide readily, almost as a mirror breaks. Its name is an intentional double entendre in German, since "to split" means "to divide" in English and "Splitter" in German means "shard". Another continental snowdrop had arrived, already finding numerous friends in the UK.

Furthermore, if planted closely together with other green snowdrops, green seedlings occur occasionally. To assist that process, we planted all our green snowdrops from Bohemia in the same spot. Birds of a feather flock together.



Anke Way, Uli Lessnow, John Finch and Hagen Engelmann, photo Paul Davies



We are presently in the fortunate position to be able to select from among a variety of green seedlings. It is no longer sufficient to be simply green. We are benefiting from years of fine-tuning our observational skills to the intricate details of the flower. Matt Bishop, of the famous book "Snowdrops: A Monograph of Cultivated Galanthus", encouraged us to a further important step, in terms of securing, safe-guarding and propagating the new selections. Based on his advice, we have started to do twin-scaling on single bulbs that are otherwise slow to propagate - so far with great success.

Our newest addition (left) is our 'Grüner Frühaufsteher' (Green Early Bird). For two years, it had been our earliest and most vividly coloured snowdrop of the 'Virescens' group; its flowers being eagerly awaited.

It takes three years for the twin-scales to flower, but we are enjoying the delicate leaves of the young plant in the meantime. We are happy to wait, in anticipation of a small bunch of uniform green flowers.



G. 'Grüner Frühaufsteher

A few other snowdrops have overcome the first obstacle of the propagation process and have been passed on to other gardens for inspection. Here is a small selection:

'Schorbuser Blut' (Schorbus Blood) (right) stands out because of its rounded plump flowers, a feature not previously represented in this group. The delicate marbling of the inner perianth is novel and possibly originates from its Bohemian genetic makeup.



Hagen Engelmann





In 'Grüner Streifentropfen' (Green Streaked Drop) (left) we succeeded in creating a very dainty snowdrop. The outer segment is striped, in the shape of a drawn-out drop, a real "snowdrop". The stripes are true, and together with its drop-shape, help to distinguish it from all other green ones.

'Grüne Waldfee' (Green Pixie) is a delicate creature of seemingly frail nature. Its colouring tends towards lime green and it lacks the bluish bloom that is so characteristic of *Galanthus nivalis*. The experienced galanthophile will enjoy this little sensitive creature with its tender green nuances.





G. 'Grüne Waldfee'



As I quickly scanned the garden on a sunny Saturday morning, I went straight past 'Hagen

Hastdunichtgesehn' (Hagen Overlooked) (left and below) on its first day of flowering. This was really quite a mistake. My more observant wife, Karla, found the little seedling and subsequently added my haste into its name, giving me a lesson for life. Be that as it may, it turned out to be a special snowdrop which will stand out in any collection from the crowd of Virescens' types with its wide-open, hovering outer

segments.





'Grüner Faun' (Green Faun) (left) is our most cheeky snowdrop. The strong upright scape emerging from broad, healthy foliage will not be flattened, whatever the weather. The dark green inner segments are effectively set apart from the outer segments with their green, splashed right to the tips.

It was pure luck that we were also fortunate with "yellow" snowdrops. Our starting point was a garden in which *Galanthus plicatus*, *Galanthus nivalis*, *Galanthus gracilis* and *Galanthus elwesii* had grown together for centuries. A friend gave me one of the snowdrops, in which the inner markings turned from green to yellow during the flowering period. We named some of the offspring because we considered them novelties in the world of snowdrops.

'Ilse Bilse' (below) is the girl mentioned in a nursery rhyme, who nobody liked in the beginning as she was quite ordinary. Only in time will she reveal her assets and then become an overnight sensation. Drop-shaped flowers hover over slightly twisted *Galanthus plicatus* leaves. The markings of the inner perianth (basal and apical) change from light green to yellow.







'Schorbuser Irrlicht'

The name 'Schorbuser Irrlicht' (Schorbus Will-o'-the-Wisp) indicates that here we are dealing with a change of colour. It is the most graceful in this group, but with an intensive yellow, turning almost orange; a precious little thing.

[ED.: A full Index for the IRG is available here]



'Schorbuser Lampion' (Schorbus Lantern) (above) can be distinguished without doubt by its large rounded flowers and orange-yellow markings which radiate out from the centre. As yet, all three are quite unique. In our experience, cultivation under glass interferes with the desired shade of yellow, a side effect also known to have an impact on classic yellow cultivars.

The days have passed when the first special plant would suffice. Given the current tremendous choice of snowdrop varieties, our own standards have improved significantly. Merely being **yellow** or **green** is a thing of the past. By today's standard, only the top varieties deserve a name and are thus likely to be accepted. We are committed to tackling the challenges we face on a daily basis, and so far we have had success.

H.E.

Some other snowdrops from Hagen's collection: Below is 'Grüne Pendelkugel' (Green Pendulum)



'Grüne Pendelkugel' has a most harmonious flower shape and most globular flower of a 'Virescens'.



Left: 'Pausbacke' (Chubby Cheeks) comes from the 'Viridapice' group, but has more substantial flowers.

Below: 'Federschwingen' (Spring Swing) is an important cultivar









'Wellenspiel' is the most unusual one and very aptly named, as it means playing of the waves.



A pretty group of yellows: 'Blonde Erika, 'Schorbuser Irrlicht', 'Schorbuser Lampion', 'Ilse Bilse'



Left: 'Grüne Weihnacht' (Green Christmas) a *Galanthus elwesii* var. *monostictus* form, flowers at Christmas time and is the biggest of the winter flowering *elwesii* virescents.

'Sündhaft Grün' (Sinfully Green) (below) is unusual with its soft green blotches.



Left: 'Till Sonnenschein' (Till Sunshine) combines, in a moment, three different greens in the plant: green/blue leaves, intensive green apical marks and green/yellow outer blotches.



Right: 'Schmalhans im grünen' (Little Hans in Green) petite flowers with an unusual spread of green in the flower

Below: A very "lucky" flower!





---International Rock Gardener------Plant Portrait---

Veratrum (Melanthium) fimbriatum - the hidden champion Text and photos by Christoph Ruby

Since 1995 I have grown a somewhat unknown and unpopular species of the Melanthiaceae-complex: Veratrum fimbriatum.

To set the scene "Bulbs of North America" gives the following dismissive description of the plant, which contributes to the general ignorance:

"Judging by its natural distribution, it may be less hardy than the other American species. This species is not attractive, though it is quite similar in appearance to the more common white-flowered veratrums". This statement and the common prejudice, that plants whose leaves are beginning to wither during the flowering period, as it is with this species, do not deserve to be regarded as being of great value for gardeners and gardens, have obviously caused a lack of interest in this extraordinary beauty - a `headbanger`` to cite Henrik Zetterlund from Gothenburg Botanical Garden. This plant features delicate flowers late in the year and, most importantly, flowers reliably every year! Only the small Veratrum formosanum is as reliable in this latter aspect. Those who deal with Veratrum will know that their flowering is normally interrupted every second year and cannot be balanced by feeding.



Veratrum fimbriatum

grows within a narrow strip along northern coastal California – a home which suggests it might even be a plant for a cold greenhouse: temperatures are moderate and quite uniform around the year. It is adapted to a long growing season with nearly no frost. Here, in northeast Bavaria - one of the very coldest parts of Germany we definitely do not have an ideal climate for this plant. So its success here illustrates its adaptive traits.

The winter weather characteristics normally reveal cold temperatures, which often occur over long

periods and sometimes drop down dramatically below zero. From time to time severe late frosts occur in spring. If one has overcome this, one may benefit from a significant dropping of night temperatures during summer (elevation: 500m); a factor which not only supports the health of alpines. Without any special protection this plant constantly grew outside here for 19 years without any problems other than the previously mentioned lower, bare, "black" frosts. Frosty periods below 4° Celsius may bite the leaves at a very early stage of development, a well-known problem with all Veratrum. A covering of a sheet of fleece or an overturned bucket may be very helpful here to overcome such sensitive periods.



Melanthium fimbriatum stock plant

From the Bavarian perspective the plant is bone hardy: our friends at the Botanic Garden of Gothenburg still doubt it, although others, who also tested it in Sweden, agree with us. Now it is the turn of others to contribute their experience on its winter hardiness. Hardiness of plants may of course depend on several reasons.



Melanthium fimbriatum close-up



Melanthium hybridum (like *Paeonia hybrida* a misleading naming for a true species): typical *Melanthium* tepals with two distinct non-marginal, parallel glands on either side of the midrib.

The species is currently placed in the genus *Veratrum*, but resembles more closely the genus *Melanthium*. In all flowering parts it shows more details of the closely related genus: the fixing points of the filaments are quite apart from the ovary, not beside the base; the flowers are keeled and have two parallel glands on either side of the midrib.

Additionally many years of trials of crosspollination with other *Veratrum* have been failing and fruitless. This fact also leads me to the assumption of a different genus. Crossings to, for example, *Melanthium virginianum* still have to be made with the hope of confirming our theory.



Parnassia fimbriata, photo Mike Ireland

Melanthium fimbriatum may be listed as a smaller member of the family, up to the size of 50cm to 70cm (in heavier clay soils only up to 40cm), which flowers regularly (!) from its third year on; its larger cousins of the genus Veratrum take up to 8 years for first flowering! This is a feature it shares with the well-known smaller Trilliums for example. The flower segments are **deeply** fringed (fimbriate): much more so than the well-known Parnassia fimbriata and very much more than with Veratrum *insolitum*. The regular blooming period starts around early to mid-August and ends around mid to the end of September. Over a period of at least 6 weeks, the plant continuously opens up the pure white flowers along the branched inflorescences - at a time in the season where we all are longing for flowers. Flower size varies from 2cm to 3cm in diameter (the graphical illustration shows the size in relation to other species). If only for this aspect, it may be stated, that the plant's potential for gardens is heavily neglected or simply not realized. The only blemish on the

plant, in that the leaves start withering of at the beginning of the flowering period (a feature of so many garden worthy veratrums), mainly occurs only at the tips. This should be acceptable compared to the many advantages of the plant.



Veratrum insolitum, photo Keir Morse © 2008 from Calphotos



Veratrum californicum subsp. californicum: flowers whitish to yellowish green with V-shaped, marginal glands at the base of the flower.

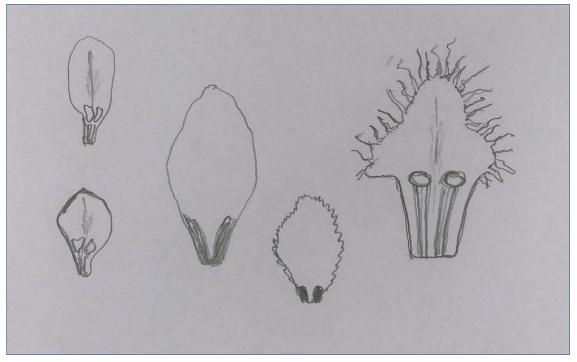


Illustration: typical tepals, which correspond to natural size relations - far left above: Melanthium virginicum, far left bottom: Melanthium hybridum middle left: Veratrum californicum subsp. californicum, middle right: Veratrum insolitum with tepal margins irregularly and shallowly fringed right: Melanthium fimbriatum with typical glands and deeply fringed margins.

As other members of the Veratreae demonstrate, a fertile, moist well-draining soil suits them best and lets them develop nice clumps over the years. All members of the Veratreae build up bulb-like buds during July/August, conserving energy for the next year's growth. Dividing or planting may be best done

after this, just at the end of flowering in late August to mid or end of September, when new roots are also developed. Care taken when splitting or growing in deep pots will allow a prolonged planting season.

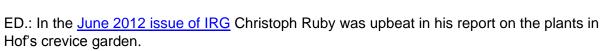
Propagation, of course, is faster when done by seed, which is set more or less regularly. The seeds are globose, wingless and from a fleshy, succulent substance.

Seed-grown plants led me to some new aspects of the diversity of this marvellous plant: seedlings with a very late flowering time to the very end of October, plants which are much taller (up to 80cm), and plants with larger flowers appeared.



I hope in future this plant will get the ranking it deserves: our heads are round to think and recognize in different directions!

Floreat, Christoph Ruby, Curator Botanical Garden Hof, Germany



The Hof Garden opens to the public again after its winter closure on 1st April 2015.

Right: Wim Boens with his friend Cathy Portier, photo by Lina Hesseling

---Article update---

Eranthis Update - Wim Boens

Since I wrote my article about *Eranthis* species and cultivars which appeared in <u>IRG 49 (January 2014)</u> some new forms have been named and some have been lost to cultivation. So I've added some up to date "news" and a short part about the diseases and pests from which *Eranthis* can suffer.



Newly named forms:

Eranthis
hyemalis
'Barbara'
(Single Group/
Light Yellow) With
pale yellow flowers
this is a single,
fertile cultivar,
named for his wife,
who spotted it, by
Hans Joschko who
took these photos.







Eranthis hyemalis
'Schlyter's Triumph'
(Single Group/Orange)
With larger flowers than
'Schlyter's Orange', this
is also a single, orangeyellow, fertile cultivar. It
originated from Severin
Schlyter's garden and
was named by Andreas
Händel.

Photos, Wim Boens.





Eranthis hyemalis 'Steffi' (Double Group/Yellow) Photo, Joe Sharman.

Yellow-flowered, this is the first completely double cultivar, where all the reproductive organs have been transformed into petals too. It was found and named by Joe Sharman in 2014.



Eranthis hyemalis 'Uckroer Frühlingssonne' (Single Group/Light Yellow) Photo Hagen Engelmann.

This cultivar has pale yellow, single flowers. It was named by Gerd Raschke after Uckro (a small village near Luckau, Germany, where the nursery of Johannes Raschke was situated) combined with the German for spring sun.

Named forms lost to cultivation.

E. hyemalis 'Dr. Martina Bell' (died out in the garden where it originated)

E. hyemalis 'Egon Treff' (characteristics not stable)

E. hyemalis 'Ruth Treff' (characteristics not stable)

Pests and diseases

Eranthis are generally easy plants and suffer from very few pests and diseases. The most frequent disease is *Eranthis* smut, *Urocystis eranthidis*. This fungal infection can be recognized initially by a thickening of the stems and leaves. These swellings then open up to reveal a black spongy mass from which spores are released. Although it can be treated by persistent use of a systemic fungicide, it is easier to dig the plants up and destroy them as soon as the first symptoms arise. Do not replant *Eranthis* in that part of the garden for at least ten years. If you really want to treat, advice is to use the fungicide Tebuconazole in the ratio 0.5 ml/ltr.; spraying 3 times, always waiting two weeks between. This should work both as a preventive and remedial treatment.

Two other fungi might infect *Eranthis*. One is *Leucotelium cerasi* (syn. *Puccinia cerasi*), a cherry disease that uses *Eranthis* as an alternate host, and forms yellowish orange galls on the leaves. The other is

Puccinia recondita, a wheat disease that uses *Eranthis* as an alternate host, and forms brownish yellow galls. These are not lethal and usually do not return year after year. One minor pest is flax tortrix moth, *Cnephasia asseclana*, which lays its eggs on the leaves. The larvae then mine channels and spin the leaves together to pupate. It is not usually a persistent problem. Other insects and slugs, snails and rodents usually leave *Eranthis* alone.

W.B.



Plant with evidence of Eranthis smut, Urocystis eranthidis, photo Wim Boens.

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