

# International Rock Gardener



## ---International Rock Gardener---

January 2013



A New Year and a new season begins for IRG - I'm sure we all have high hopes for the coming year! The Editorial Team send their grateful thanks to all those who have been in contact to say they enjoy this form of magazine. Such comments are most welcome and are an inspiration to us to continue in this work. Most important in this process, of course, are our contributors, without whom none of this is possible. We take this chance to thank all those who have contributed in the past and encourage everyone to submit articles or ideas for the future. Many kind comments about the IRG concern the fine photographs that are the backbone of our publication. So many people, not just our authors, are kind enough to allow the use of their photographs in these pages: as with text, the ownership and copyright of these photos remain with the originator and anyone wishing to use them

elsewhere should seek permission. To do so, or to submit an article, please make contact in the first instance to [editor@internationalrockgardener.org](mailto:editor@internationalrockgardener.org) It is also possible to comment on the IRG in [the SRGC Forum](#).

This issue heralds the Snowdrop Season with news from Valentin Wijnen, who has also provided our cover picture. Valentin will be familiar to many "Galanthophiles" from his talks at Galanthus events in several countries as well as his contributions to the VRV and SRGC Forum pages where Snowdrop threads are immensely popular! Taking us 'out and about' to the Swedish region of Abisko is Susann Nilsson who shows the natural habitat of many fine plants that are treasured by many of us in our gardens.

**IRG Index: You may download a full index to IRG, compiled by Glassford Sprunt, [HERE](#).**

## ---World of Bulbs---

**Belgian Snowdrops: discoveries by Valentin Wijnen**      Text and photos Valentin Wijnen

Passion is sometimes the key to find and develop new snowdrop cultivars, but most often these beauties are found by pure chance. I have been lucky to find some very good *Galanthus nivalis*, *nivalis* var 'Scharlockii', *woronowii* & *elwesii* almost on my doorstep.

If I look back on all the new, special snowdrops I have found in the past 10 years, it seems to me often a combination of perseverance, pure luck and locating what I call 'hot spots'. Hot spots, for me, are places where colonies of Galanthus have had the time to produce mutations and to cross-breed with each other. Often these treasure houses are hidden, almost secret gardens, old private parks or woods with naturalised colonies of Galanthus. But sometimes, I have found the most special new snowdrops by pure coincidence.



***G. nivalis* 'Valentine's Day'** (left) © V.Wijnen

The date was 14th February 2004. My wife Melanie and I were surveying an old, abandoned colony in an old orchard. After searching for almost two hours between many, many thousands of ordinary *Galanthus nivalis*, we decided to return home. And then, suddenly, Melanie glimpsed this exquisite 'Trymtype' in *nivalis*! The inner and outer petals are the same length; the deep green V-markings are also perfectly equal. When it was found, it was only one (small) bulb. So propagating it became a true challenge. By now (8 years later) I have a reasonable stock.

The seed off-spring is as charming, showing the same markings, a character also shown by 'the family Trym'. So, this opens up quite some possibilities in crossbreeding.

It really was my lucky day as I also discovered two superior yellow snowdrops as well - 'Grakes Gold' & 'Grakes Yellow' - pictured on the cover and next page.



*G. nivalis* 'Grakes Yellow' © V.Wijnen



To many people this photo of '**Grakes Yellow**' (above) is maybe at first sight thought to be '*another yellow form*' of *G. nivalis* Sandersii Group. But there are two distinctive features to it: the yellow ovary and the V-marking are a very bright, deeply coloured almost crisp yellow. The leaves and stem are yellowish too with a grey-blue sheen all over. It is also a bold plant, growing higher than the (many) other sandersii's I grow here in my collection at 'Grakes Heredij'.

'Grakes Yellow' has been successfully chipped & is now being distributed.

Left and cover photo: *G.* 'Grakes Gold' © V.Wijnen

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### ***G. nivalis* 'Grakes Gold'**

When the well-known snowdrop expert Colin Mason saw this plant for the first time, he said: "This is really special, I am completely 'drooling' over it..." Well, this is indeed an outstanding but curious snowdrop as it is the only one I know of which has completely yellow (not yellowish) leaves for some three months. When the leaves emerge in early January they show a luminescent yellow colour. The reason is of course that it is due to less chlorophyll. Perhaps that's why some people find it an unhealthy plant? Well, you can hate it or love it, but without doubt it stands out immediately in a collection.

Right: 'Grakes Gold, after flowering.  
© V.Wijnen

'Grakes Gold' has flowers with the same yellow brightness in the ovary & inner markings as 'Ray Cobb', but it shows the upright habit of 'Spindleston Surprise'. Only when the flowers start fading do the leaves slowly turn almost completely green. Nevertheless, it is an eye-catcher but not an easy one to grow.



***G. nivalis* 'Robert Wijnen'** (left) © V.Wijnen

In the past, 'Blonde Inge' caused a sensation in 'snowdropland'. Since then some better forms have been found. This one was found at the same 'hot spot' as 'Grakes Yellow'. It stands out because of the crispy yellow inner yellow marks, whilst the ovary keeps being green-yellowish. But above all 'Robert Wijnen' is a bold, healthy and vigorous snowdrop, with flowers held high above the

leaves. To me it has some hybrid character in it. This beautiful snowdrop is named after my father Robert Wijnen.

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### ***G. nivalis* 'Melanie S.'**

In 2006, I had the opportunity to search a very old colony of many thousands of *Galanthus nivalis* 'Flore Pleno' in an old, English-style public park in Limburg (in the NE of Belgium), the region where I live.



Most of the 'Flore Pleno' were uniform, I selected only one type, a very regular double.

Limburg Flag

It was a striking plant between so many other irregular flore-pleno snowdrops.

This snowdrop needs careful cultivation - not that it is difficult to please, but it needs good garden conditions; needs to be grown in good soil and in a sunny environment. It only shows its true characteristics after growing for at least 2-3 years in the same spot. The inner petals are very regular, the outer petals claw inwards. It is, with its height of 12cm, a small, dainty double with good flowers. After replanting or splitting up a clump, it is irregular for some two years. Too much manure also makes it too lush and irregular. But hey, it is a charming snowdrop. I named it after my beloved wife Melanie Schilperoord.



*G. nivalis* 'Melanie S.' detail © V.Wijnen



*G. 'Melanie S.'* © Wim Boens



*G. nivalis* Sandersii Group 'Golden Boy' (left) © V..Wijnen

In 2008, I found a small clump of a good yellow nivalis, with yellow-orangey ovary and good yellow marking on the inners, growing in the same hot spot'. My son Senne (only 3 months old at the time) was with me: I gave it the name '**Golden Boy**'. It grows easily for a Sandersii Group snowdrop, it multiplies well. I immediately chipped the largest, mature bulbs, whilst the rest of the clump (7 small young bulbs), flowered the year after finding it. Luckily, I took the care to plants two bulbs at another spot in 'Grakes Heredij' as the first (original) clump became prey to narcissus fly.....I am rebuilding the stock right now.

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Ed.: Valentin Wijnen is a Belgian galanthophile who has been a science teacher for over thirty years now, at a secondary school (IKSO 14-16 years-olds) in his hometown of Hoeseltin NE Belgium. He is married to Melanie Schilperoord and has one son, Senne (5 years old). His 'white fever' started early. At only 7-8 years old, Valentin dug out a small clump of ordinary *Galanthus nivalis* in a nearby park. In the last 20 years he admits his love for snowdrops has become an addiction. Now his collection amounts to over 500 different named snowdrops. Many (collected, selected or sown) *Galanthus* (especially *nivalis* var. 'Scharlockii') in his garden aren't named, though some of them are most promising!

Left: "Chips" of *Galanthus* 'Diggory' made by Valentin, showing his success with this method of propagation. This photo was shared by Valentin in the SRGC Forum in 2006 when he wrote "This past Autumn, I have been chipping some (new) *Galanthus*. Some are extremely successful and already showed (big) bulbils when I planted them up. In the picture you see the chips of *Galanthus* 'Diggory', which seems to me a good one to chip"



Valentin Wijnen with some *G. elwesii*



*G. nivalis* 'Grakes Green Bells' © V.Wijnen

### ***G. nivalis* 'Grakes Green Bells'**

This will probably be the last in my 'Grakes-series', which is dedicated to my grandfather Gerard Schoefs - he was a much loved postman in the region and was given the pet name 'Grake' by the people. It is also the origin of the name of our garden 'Grakes Heredij'. 'Heredij' is a local dialect name given to a beautiful garden or a well-kept plot. When I inherited the house and the garden, it was obvious what the name should be!

*G. nivalis* 'Grakes Green Bells' is a soft green shaded *nivalis*, with all green inners and a small white edge around the notch. It is a very pleasing snowdrop, not a fast grower but without doubt one of the better virescent forms of *nivalis*.

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### ***G. elwesii* 'Senne's Sunrise'**

In the last week of December 2006, I noticed at a local Saturday market that a retailer still had quite a lot of packets of *Galanthus elwesii* for sale. Some 1000 (!) bulbs were cleaned up, removing the dry outer scales, throwing away any bulb looking unhealthy. As expected lots of the bulbs never came up although 60 per cent survived. It convinced me again that snowdrops are survivors. Amongst these 'survivors' I spotted a special clone, which even in bud was already showing its orangey tinge (shown next to an ordinary white snowdrop for comparison).



I have been growing this snowdrop now for five years. It has kept the same orangey-creamy tinge each year. So the colouring of this snowdrop is, without doubt, stable. 'Senne's Sunrise' also keeps this orangey-creamy tinge all over the outer & inner petals throughout the complete flowering period. Over this period I have had the chance to grow 'Joy Cozens' and 'Anglesey Orange tip' next to it. It seems to be the superior one of these three.

It is a difficult snowdrop, almost impossible to chip...so it is still very rare!

*G. elwesii* 'Senne's Sunrise', shown left, with a white flower for comparison © V.Wijnen

### ***G. elwesii* 'Sweet Alice'**(right)

In the nearby city of Bilzen, I noticed a clump of *G. elwesii* that stood out showing very bold green markings on the outer petals. The owner told me that she had planted eight bulbs out of a package she bought at a garden centre in the Autumn of 2003. The owner offered me the complete clump in exchange for 5 other named snowdrops. This is the origin for a truly distinguished snowdrop with a large vivid green mark on the broad, rather flat outer segments. On the inside, there is a big dark green rounded 'X' mark.

I had been looking for quite some time for a beautiful snowdrop that I could name for my lovely mother, Alice Schoefs. That is why I named this one (above) after her: *Galanthus elwesii* 'Sweet Alice'.



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### ***G. woronowii* 'Boschhoeve'** (right)

In 2008, I was lecturing at the 'Sneeuwklokjesfeest', at the Boschhoeve in Holland. Looking at a sales table I noticed a pot of *Galanthus woronowii*, with only one flower showing green V-marks through the skin of the buds.

There is a similar snowdrop, *Galanthus woronowii* 'Cider with Rosie', recently named by Colin Mason but, following encouragement from Colin, I have decided to name my find *G. woronowii* 'Boschhoeve' (with the agreement of Organiser of the 'Sneeuwklokjesfeest', Dineke Logtenberg).

© V.Wijnen

Ed.: Valentin Wijnen will be talking on "Galanthus: Belgium's Best" as part of this year's '[Sneeuwklokjesfeest](#)' at 11.30 and 13.30 on Thursday 14<sup>th</sup> February. [SRGC events](#) around snowdrops are a Snowdrop Day in Dunblane on the 15<sup>th</sup> and our "Early Bulb Day" on Saturday 16<sup>th</sup> February. For details of many other Snowdrop Events in the UK and on the Continent, see this thread in the [SRGC Forum](#).



### ***G. nivalis* 'Looking around'** (right)

© V.Wijnen

Coming from a very large snowdrop field in the far north of Holland is this unusual double *nivalis*. The flowers are held horizontally, like 'Blewbury Tart', but they never really open fully during their flowering period. The outers are a little spiky, showing green shading and are always 'looking around'. Even when the flowers are fading, they still remain in a horizontal position. That's why it stands out in a snowdrop collection.



### ***G.nivalis* 'Just the two of us'?**

© V.Wijnen

Look at this picture at left: I found this complete clump in a poplar planting in January 2012 right at the moment that it was being cut. Nearby a tractor track was this 2-petalled *G. nivalis*. I got permission to dig it up, it seems only an hour or so before it should maybe have been lost... '**Just the two of us**' is the working (yet already registered) name, but it needs to be observed for two more years. Love it or hate it...there seems no middle path.....

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### New cultivars of *Galanthus nivalis* var. 'Scharlockii'

In the last few years I had the chance, with my good friend Johan Mens, to observe some naturalised colonies of *Galanthus nivalis* var. 'Scharlockii' in two private parks in the Belgian Ardennes. We got the owner's permission to take some bulbs from clones that are truly gems, standing out of the 'normal' range of snowdrops by their massive, bold, vivid green marked outers (and inners). These snowdrops shown below are not named yet, I just show them here in the IRG to illustrate the rich variety of 'Scharlockii'. Any suggestions for a name?



Left: nameless 'Scharlockii' #1

photos © V.Wijnen

Below: nameless 'Scharlockii' #2



Left: nameless 'Scharlockii' #3

Below: nameless 'Scharlockii' #4



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I have been very lucky to find so many new snowdrops. To be honest, the ones shown here are only a 'best-of-selection'. I grow many other forms which I have not named and which will most probably never be named, but the gene pool of them is a true snowdrop nursery in itself. I collect quite a number of seed pods and sow them in pots ...or just in the garden. Future surprises guaranteed! V.W.

## ---Gardens in the Mountains---

### Plant hunting in the Scandinavian Mountains Susann Nilsson

Most Europeans interested in plants travel to the central and eastern European mountains, or possibly to the Pyrenees. However, Scandinavia does have a mountain range as well, Skanderna or the Scandinavian Mountains, which runs all along the border between Norway and Sweden. The range belongs to the Caledonian mountain chain that extends all the way to the British Isles and was formed over 400 million years ago. The Scandinavian Mountains consist mostly of hard slate, granite and gneiss. But, in the area around the village of Abisko (located at 385m altitude and 250km north of the Arctic Circle) there are streaks of porous calcareous rocks, including dolomite. As we all know, a lot of different species thrive in such circumstances. However, when talking about the ground conditions, I also have to mention the remarkable area where the bedrock is exposed, just north-west of Abisko. That gneiss rock, 2500 million years old, has a completely different character to the surrounding mountains and consequently the hard bedrock is very poor for species.



The bedrock at the entrance of Kärkevagge valley

The village of Abisko is located by the lake of Torneträsk which is almost 200m deep. The lake, covered with ice until June each year, is Scandinavia's largest mountain lake with its area of 332km<sup>2</sup>.

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This body of water evens out the climate in the nearby mountains, giving for example the hottest month, July, an average temperature of only 11°C.

Abisko indeed has a short growing season, just about 90 days, but on the other hand it is known for its excellent weather. The area lies in the rain shadow of mountains and statistically it is the driest and sunniest place in Sweden and therefore a perfect location for seeing both the midnight sun and northern lights. However, there was not much of either of those during my visit with some botanical interested friends as the weather Gods chose to offer us a fortnight with nothing but rain, cold and fog.



The northern lights envelop the landscape of the Abisko National Park on Valentine's Day.

Photograph by kind agreement of [Chad Blakley](#), an American who lives and works in Abisko and who leads trips to enjoy and photograph the Aurora. [National Geographic](#) has also featured Chad's photos of the Aurora Borealis.



*Saxifraga aizoides*; if you ask me I would say it is absolutely one of the most beautiful *Saxifraga* with its dotted petals. Fortunately it is fairly common in northern Scandinavian Mountains. It is to be found to the altitude of 1700m, but this photo was taken at a lakeside moor at 345m. The species is common in the mountains of south-eastern Europe and occasionally occurs in North America.

Photo by Joel Levin

Spring and early summer had also been unusually rainy and cold; this led to a delay in flowering which gave us the opportunity to experience an enormous amount of flowers during the last half of July. Unfortunately the persistent rain meant that cameras mostly remained packed in waterproof bags and I had to make do with a small cheap pocket camera. Many pictures of rare species were therefore poor and not good enough for publication.

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We recorded, however, well over 200 species. Of course we both missed and forgot to take note of a number of spotted species, especially among the grasses and sedges. The total number of species in the Swedish mountains is about 700, of which 270 do not occur in the lowlands. Most of the plants in the northern Scandinavian Mountains have a circumboreal distribution. Others are only found here or in the Alps in central Europe but usually at much higher altitudes.

There are in the Abisko area 28 red-listed species, of which 14 are in *Orchidaceae*. We were privileged to see ten of these orchids. Unfortunately, we did not see the sweet little *Calypso bulbosa*, which blooms earlier in the season. However, we did find *Listera cordata*, both dark and light form, *Platanthera obtusata* subsp. *oligantha* - which is very unusual - *Chamorchis alpina*, *Gymnadenia conopsea*, the rare *Pseudorchis albida*, *P. straminea*, *Dactylorhiza viridis*, and the unusual *D. lapponica*, *D. maculata* subsp. *maculata* and *Corallorhiza trifida*. Naturally, there were also populations where the different *Dactylorhiza* had hybridized so we did not really know at all what they were supposed to be. But actually, who cares? They are still queens of the meadows and slopes!

The advantage of the northern Scandinavian mountains is that one does not have to climb so high up to see the really rare plants. The tree-line in the Abisko area is at about 650m above sea-level, and *Ranunculus glacialis*, for example, can be found from 800-1000m. However, we did not only want to see high altitude plants but we also examined marshes, lakeside moors, meadows of tall herbs and other habitats in search of interesting plants.



***Betula pubescens* subsp. *czerepanovii*** at 4 o'clock in the morning. The trees this year were severely affected by the larvae of *Biston betularia* (Peppered Moth) which leaves the trees completely leafless. The last time the mountain forest was hit so badly was in the 1950s when most of the trees died. Next year will tell how the trees coped with the latest attack.

The forest around Abisko is dominated by *Betula pubescens* subsp. *czerepanovii*, a gnarled, multi-stemmed form. At higher altitudes it is replaced by *Betula nana* subsp. *nana*. Around 700m, just above

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the tree-line, there is a belt of shrubby willows such as *Salix hastata* subsp. *hastata*, *S. arbuscula* and *S. lanata* and all possible hybrids between. As soon as one leaves the belt of brushwood one is forced, at every step, to walk on fantastic carpets of woody groundcover consisting of *Salix reticulata*, *S. polaris* and *S. herbacea*. They hybridize endlessly and it is impossible to distinguish pure species. Just at the brushwood-belt the frequently-occurring *Trollius europaeus* shrinks remarkably in height whilst the flowers themselves remain the same size.



The brushwood belt at 700m. *Salix*, *Trollius europaeus*, *Viscaria alpina* subsp. *serpentinicola* and plenty of other high herbs.



*Eriophorum brachyantherum* and *Eriophorum vaginatum* in the bog - in the background- *Betula pubescens* subsp. *czerepanovii*.

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*Eriophorum brachyantherum* is found in abundance all over the northern hemisphere while *E. vaginatum* only grows in northern Sweden and in sparsely scattered locations in northern Russia and North America. In addition to these species we also found *E. angustifolium*, *E. latifolium*, *E. scheuchzeri* subsp. *scheuchzeri* and *E. gracile*. *Eriophorum brachyantherum* differs from *E. vaginatum* both by the absence of leaf sheath, less wool and different scales at the spike.

We made a careful inventory of a bog at an altitude of 400m, but it was fairly species-poor and of no interest; a number of plants belonging to the family *Juncaceae*, including a pair of *Eriophorum* and some *Juncus*. Otherwise it was the same woody groundcovers as everywhere else; *Empetrum nigrum* subsp. *hermaphroditum*, *Vaccinium microcarpum* and *Vaccinium uliginosum* subsp. *uliginosum*. But the finding of a clump of beautiful *Drosera rotundifolia* made the hours spent at the marsh worthwhile.



*Drosera rotundifolia* is a really small and cute carnivorous plant which traps insects and derives the nutrients from the poor things. *Droseras* are very common in wet soils throughout Europe, western Russia, and also in eastern North America. Although it is so common in Scandinavia, it is very rare in the mountains, so it was a quite a nice find.



*Vaccinium microcarpum*, a dwarf form of *Vaccinium oxycoccus*, thrives in humid environments, often in moss. Although it is circumboreal it is most wide-spread in northern Scandinavia and the Balkan countries. This appealing *Ericaceae* has red edible berries, but they are very small, about 5mm, so I

would say they serve only as bird food. The plant is evergreen but because of its small size, it is very difficult to detect when not in flower or fruit.



The treasure of the mire, *Rubus chamaemorus* (*Rosacea*) (right) is also a very common plant in the circumboreal belt. The species is dioecious - i.e. it has male and female flowers on separate individuals. Sadly because of this, a mire in full bloom might not give a great harvest of the gold-coloured berries that are a delightful delicacy.

Left: Susann Nilsson  
Photo by Olga Bondareva



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The meadows of tall herbs at 400-450m offered quite a lot of ferns such as *Dryopteris expansa*.

*Ed.: Some extra photographs and details of other plants seen on this trip can be seen in the SRGC Forum\*\**

On the way up the slopes of Paddus, we stopped by a beautiful small lake. At the rather boggy area next to it we found many interesting plants, including *Rhododendron lapponicum*, *Andromeda polifolia*, *Astragalus alpinus* subsp. *alpinus*, *A. alpinus* subsp. *arcticus* and the small *Tofieldia pusilla*, belonging to the family *Melanthiaceae*. There were also quite a number of species belonging to family *Ericaceae* both in the more boggy area and at the drier surrounding slopes.



Above: The yellow-flowered *Astragalus frigidus* (centre) is fairly rare and occurs only sparsely in the northernmost Scandinavian Mountains. Apart from having yellow flowers, it also has wider leaflets than other *Astragalus*. We did see *Astragalus alpinus* subsp. *arcticus* (left) much more often, and even *Astragalus norvegicus*, which is quite rare. The sweet *Oxytropis lapponica* (right) was found at 930m altitude. Most of these species occur in the Alps as well.



*Vaccinium vitis-idaea* subsp. *vitis-idaea* may be said to be Sweden's most important wild berry, called "the gold of the forest". The evergreen sprigs grow abundantly all over the northern hemisphere (except in western and southern Europe). The red berries with astringent taste have a preservative effect. The species grows across Scandinavia up to almost 2000m in altitude.

The highest peak we climbed was Nuolja, reaching 1200m. At the mountain's foot we passed through a forest of *Betula pubescens* subsp. *pubescens* (i.e. the single stemmed form) followed by rich, calcareous streaks and brushy forms of *Salix* before coming upon an area which was the highest, steep and stony, hundred or so metres of completely open mountainside, covered with carpets of extremely low-creeping *Betula nana* subsp. *nana* and *Loiseleuria procumbens*, well complemented here and there by a single *Rhodiola rosea* or the rather rare *Pedicularis hirsuta*. Once we reached the summit we were rewarded with a stunning view across Lake Torneträsk and also with a poor, windswept *Ranunculus glacialis* with a single flower.

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The small and cute **Diapensia lapponica** subsp. **lapponica** (left) is the only representative of the genus (with four species) as well as the small family *Diapensiaceae*. The diminutive plant, a few cm tall, thrives in the bare mountain, preferably directly on a bare rock. I think it can, at a first quick glance, easily be mistaken for a **Saxifraga**. Plant locations are usually high altitudes in the northern

Scandinavian Mountains, Greenland and eastern North America, but here we also found it on the moor on the slopes of Paddus.



Above: **Nuolja**, looking towards the south at 1000m altitude. The darker green sections are extremely low carpets of *Betula nana* subsp. *nana*. In this image you can clearly see the difference in the vegetation compared to the same altitude in for example the Alps.

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Above: Here is a real treat - *Cassiope hypnoides*, an *Ericaceae* who likes hiding in the bare mountain's low carpet of procumbent, woody plants. This species is found at high altitudes in the Scandinavian Mountain's northern regions, in Iceland and Greenland, and sparsely along the North American east coast. It often grows in partnership with large flat tufts of *Silene acaulis*.

*Silene acaulis*, which has its origin in the Alps, and was spread up north during the latest ice-age, is the *Silene* that thrives in the highest altitudes. Here, however, the *Cassiope* is caught together with *Salix herbacea* and *Empetrum nigrum* subsp. *hermaphroditum* at 1000m, Nuolja's east slope. In the middle of the mound is an interesting lichen.



Left: Another very beautiful species, even with flowers past their prime, is also in the *Ericaceae*; *Phyllodoce caerulea*. It occurs in the northern part of the Scandinavian Mountains and has circumboreal habitat. The evergreen foliage is very similar to the more common *Empetrum nigrum* subsp. *hermaphroditum*. The species can reach up to 20cm. Here caught at an altitude of 750m.

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***Pedicularis lapponica*** (left) is a semi-parasitic perennial belonging to *Scrophulariaceae*. The picture is shot on the seemingly barren mountain of Nuolja (930m) in a carpet of *Betula nana* and *Empetrum*. The related ***Pedicularis hirsuta*** (right), which is both beautiful and rare, is found in the northern Scandinavian Mountains, Svalbard and Greenland and eastern North America. Both the stem and calyx are covered with warming woolly hairs. The species grows on calcareous soil and in Sweden at what we consider high altitudes. Here, high on Nuolja at 1000m, it grows with such as *Diapensia lapponica*, *Salix polaris*, *Salix hastata*\*\* *Sibbaldia procumbens*,\* *Bartsia alpina* and *Cassiope hypnoides*. (\*\* see [Forum](#))

Right: ***Pyrola rotundifolia* subsp. *norvegica*** is the (sub-) species that has a protruding pin, like a cheeky little tongue. It is quite rare in Sweden, but occurs sparingly at calcareous soil in the northern mountains, as well as in northern Russia and North America. We found this individual in birch forests on Nuolja at 450m.

*Pyrola* is represented by five species in the Scandinavian Mountains, we found four of them, all in bloom. *Orthilia secunda*, which has been moved from the genus *Pyrola* to its own, grew on a landslide lakeshore. The others, *Pyrola minor*, *P. media* and *P. rotundifolia* were seen in several places, (*P. media* despite that it is said to be quite rare). The *Pyrolaceae* family is now transferred to *Ericaceae*.

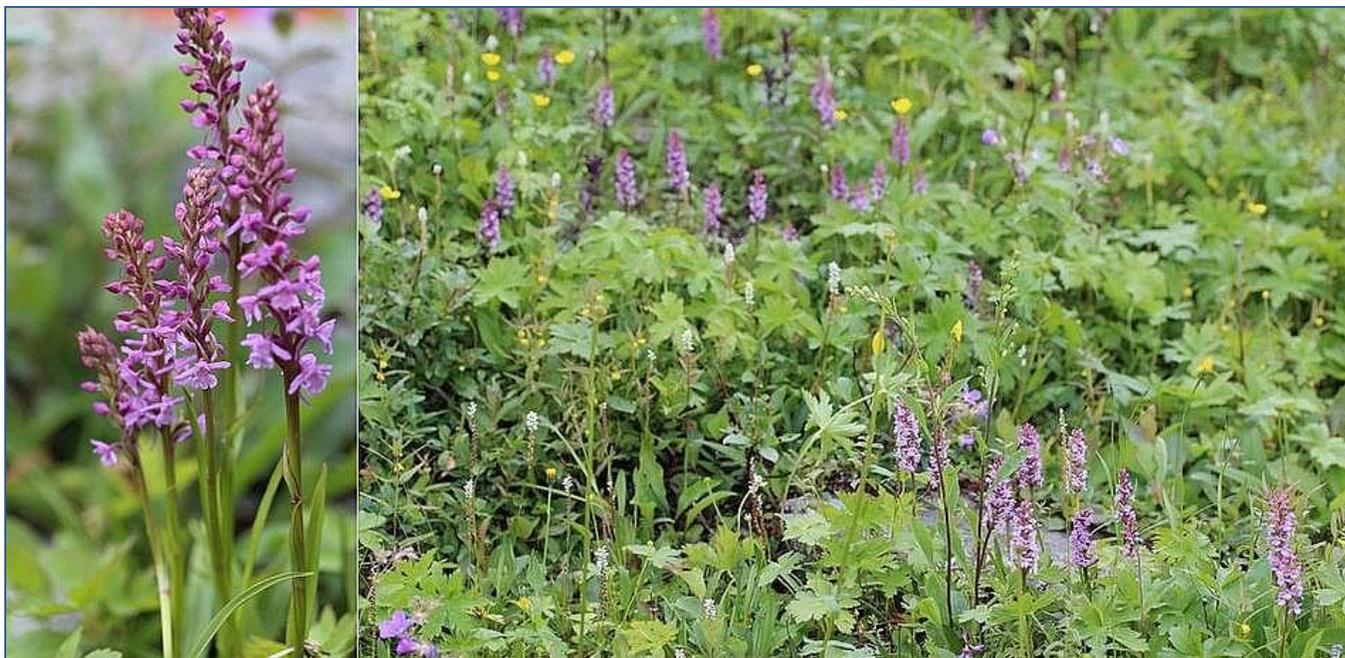


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Not to mention *Linnaea borealis* subsp. *borealis* (left) would be a minor sin, as it is named after Linnaeus, the father of systematics (although he was far from the first). *Linnaea borealis* subsp. *borealis* which belongs to the family *Caprifoliaceae* grows all over Scandinavia, and is one of the first plants Swedish children learn to recognize (although most people have never seen it because it is so shy and usually found in the moss in dark forests). It is also the provincial flower of Småland, located in southern Småland, where Linnaeus was born. We found the species in fairly open forest at Mount Nuolja's foot at 450m. The species (which is alone in its genus) is very common also in the Baltic States and Northern Russia, while its sister, subsp. *americana*, is very common in North America.

On a small ledge at 545m altitude at Nuolja's eastern slope, next to the creek Riddongirra, we found a miniature meadow of *Gymnadenia conopsea* among different kinds of grasses and *Bistorta vivipara*, Small *Ranunculus* species, *Filipendula*, *Geranium sylvestris*, *Solidago virgaurea*, *Melampyrum*, *Bartsia alpina* and *Astragalus*. There were also flowering *Saxifraga aizoides* and *Antennaria dioica* that are not shown in the picture. Below: *Gymnadenia conopsea*, one of the most beautiful orchids in the area, is red-listed, but can be found throughout Europe, except Spain, and in parts of western Russia.



Two of Susann's travel companions – left, Joel Levin, who works in the [Lund Botanical Garden](#), has spotted *Listera cordata*, an Orchid that probably only its mother could love. The inflorescence indeed is taller than the one of *Corallorhiza trifida*, but equally sparse. The species is common in northern and central Europe. Far left: Andreas Novotny consulting the flora.

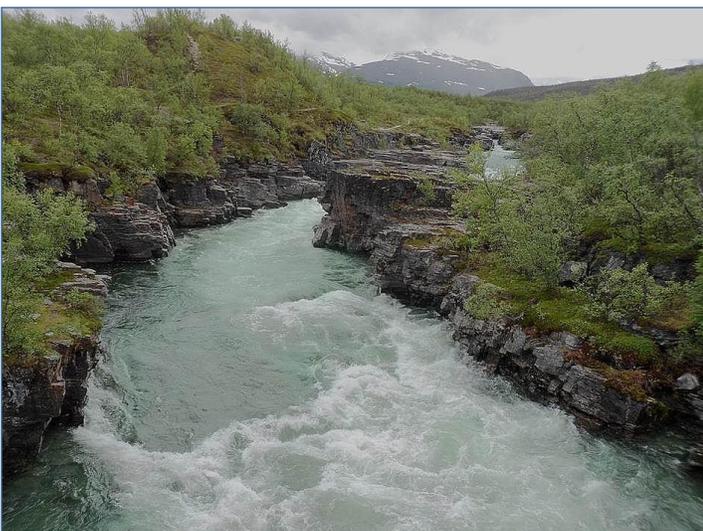
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Left: The Scandinavian *Erigeron uniflorus* subsp. *eriocephalus* is a very beautiful and rare Asteraceae which differ from the main species by its very hairy bracts. The Scandinavian population also grows, unlike the main species, not in damp habitats but on sunny ledges. There is a discussion as to whether it is a separate subspecies that differs from the form in the Alps. (Nuolja 940m)



*Pinguicula vulgaris* (above right) is the most common of the three *Pinguicula* species that grow in the Scandinavian Mountains (In the family *Lentibulariaceae* which is mostly found in the southern hemisphere). We encountered all three species, *Pp. vulgaris*, *villosa* and *alpina* at every altitude. The beautiful, more rare, white species *P. alpina* was also found at locations that were not quite as moist as expected. These plants, with sticky gland hairs on the rosette of leaves captures small insects, occur over large areas, particularly in northern Russia but also for example in the Himalayas. Here in the Abiskojåkka canyon (385m) together with *Empetrum*. **Abiskojåkka**, (left) is Lake Torneträsk's main water provider,



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here pictured surrounded by *Betula pubescens* subsp. *pubescens* and carpets of *Empetrum nigrum* subsp. *hermaphroditum*, *Arctostaphylos uva-ursi* and *Arctostaphylos alpina*. The river Abiskojåkka, flows partly in a deep ravine where we found many interesting species that would otherwise only be found at much higher altitudes. But the canyon was not particularly hospitable to investigation as the constant threat of a dip in the icy, rushing green water constantly hung over us.

**The Kärkevage valley** is said to be Sweden's most beautiful valley, and I am inclined to agree. It is difficult to understand why remote New Zealand was chosen for the filming of "Lord of the Rings" trilogy. Had they worked in this valley, they could have captured all the scenery for both the Shire and Mordor in this dramatically changing landscape.



“Mordor” - The Kärkevage valley

The long, narrow valley is closed for hiking up to the beginning of July each year due to the risk of landslides and big rocks falling from the surrounding cliffs. Just days before our hike there was a huge rainstorm which had caused parts of the rock wall to collapse and also created a new waterfall down the cliff, which left stones and rather large boulders on the trail.

Despite this, we could not resist climbing up on a scree full of *Orchidaceae*, *Dryas*, *Ranunculus*, *Viola*, *Pyrola*, *Salix*, *Alchemilla*, *Veronica*, *Andromeda*, *Silene*,

*Cerastium*, *Stellaria*, *Antennaria*, *Saxifraga* and even a confused *Filipendula ulmaria* to name only a fraction of the genera which grew there in association.



Left: **Valley of Kärkevage**, a calcareous scree at 700m with *Dryas octopetala*, *Bartsia alpina*, *Ranunculus* sp., *Trollius europaeus*, prostrate *Salix* sp., bushy *Salix* sp., *Bistorta vivipara*, *Alchemilla* sp., *Astragalus* sp., *Erigeron* sp. At the end of the valley is a small lake at 835m altitude.

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It is one of the world's clearest lakes, due to the fact that there are hardly any organisms in there. Despite a depth of around 35m, there is a clear view down to the bottom of the lake. However, it was not the lake itself which was the goal of our excursion, but the slate rock field just beside it, where countless *Ranunculus glacialis* were in full bloom.



I suspect that *Ranunculus glacialis subsp. glacialis* (above) does not need a detailed presentation. The species is indisputable king of the *Ranunculus* represented in Scandinavia, being the only white flowering (Ignoring some water growing species). The species matures, however, towards a stunning dark pink colour. It grows outside the Scandinavian Mountains also, in Iceland and on Greenland's east coast. The southwestern Alps are inhabited by this aristocrat, too, but at a much higher altitude. In the Scandinavian Mountains, the Glacier Crowfoot is the vascular plant that stands at the highest altitude, it is recorded well over 2000m. The plant is also to be found in other scattered locations in the northern hemisphere besides the ones mentioned.

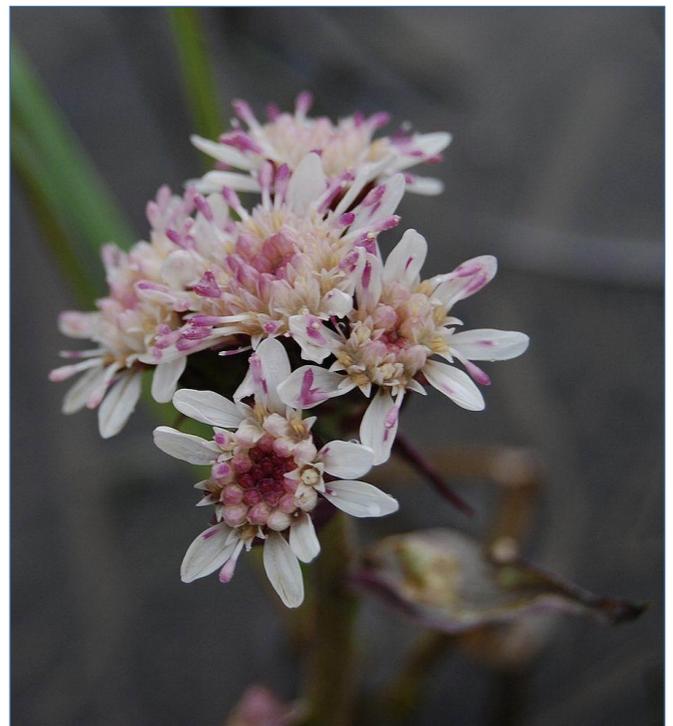
Another treat was the diminutive *Saxifraga rivularis*, which well hidden in semi-caves, was just about to bloom. Nearby, in a few patches of melting snow, pale *Angelica archangelica* were breaking out from the snow's crust. I wonder if they would have had time to reach flowering- size in the few remaining weeks of vegetation.

*Petasites frigidus*, photo by Joel Levin

On the edge of a freezing cold rivulet at bottom of the valley was a magnificent specimen of *Petasites frigidus*, said to be the only one in the area.

*Petasites frigidus* is the only species of the genus occurring in the Scandinavian Mountains. It has a circumboreal distribution. A total of four species are represented in Sweden, and this is definitely the most beautiful. The other species occur only in the lowlands of southern Sweden. The genus blooms before leaves develop.

The meadows of tall herbs around Björkliden (about 420m) offered many species that also grow in the lowlands down south, such as *Silene dioica*, in both a pink and a white form, many *Alchemilla* species, *Geranium sylvestris*, white and pink form, *Epilobium angustifolium* and for example, two species of the semi-parasitic genus *Melampyrum*; *M. pratensis* and *M. sylvaticum*, both annuals.



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More local plants were growing there too, such as *Paris quadrifolia* (left), *Cicerbita alpina*, *Rubus saxatilis* and lots of different orchids. There were also plenty of ferns and a meadow with just *Aconitum lycoctonum* subsp. *septemtrionale* (which during our stay was completely mowed down by local authority employees with brush cutters, exposing the old foundation of the homesteads of the navvys who built the railway from the Kiruna ore mine to the Norwegian port of Narvik in the early 1900's (The construction of that railway is certainly a hair-raising history worth being told on another occasion.)

*Paris quadrifolia* is a monocot that is very common throughout Europe except in Spain, Italy and Ireland. The species can grow up to 35cm high and is considerably smaller than its Asian relatives. *P. quadrifolia* is the only representative of the family *Trilliaceae* in Scandinavia. Pictured in fruit, Högliden 420m.



*Antennaria alpina* (left) is, unlike *Antennaria dioica*, apomitic; meaning it sets seeds without fertilization. A dioecious plant (as *A. dioica*) has male and female flowers on separate individuals. *Gnaphalium supinum* (centre) is quite similar in appearance to *A. alpina* but is much wider spread. We also found *Gnaphalium norvegicum*. (*A. alpina* at Kärkevagge 600m. *G. supinum* at Nuolja 700m.) In the past it was believed that the *Antennaria dioica*'s male individuals were white flowering while the female plants were pink flowering. This has since been proved not to be true; the female individuals can be both pink and white. There are also singular male individuals that can show pink flowers (right), pictured at Nuolja, 545m, the mountain river Riddongirra in the background.

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In the meadows of tall herbs orchids of the genus *Dactylorhiza* are very common but it is difficult to determine whether there are any true species left as they hybridize readily. This individual (left) appears to have both *D. maculata* and *D. lapponica* involved. The main impression is *D. maculata* subsp. *maculata* but when one looks closer, one finds that, for example, wing-angle corresponds more with *D. lapponica*. 450m Högliden.

Below: *Geum rivale* - a very nice *Rosaceae* and the only representative of the genus in the Scandinavian Mountains. According to the flora, we should not have found it so far north. When it has finished flowering, it looks like a big bumblebee is jammed inside the petals with just his behind sticking out. It occurs profusely over Scandinavia, much of Europe and western Russia, and is also abundant in a belt of eastern North America. In the wild, it grows in relatively moist environments but I keep it successfully, actually too successfully, very dry in the garden. Björkliden 420m



*Geum rivale* : flower after petals have dropped; the emerging flower head; an aberrant bloom

Of course, everywhere at lower altitudes there were plenty of different grasses and sedges and we also had the opportunity to study some viviparous species. \*\*

Unfortunately the bad weather prevented us from seeing any open blooms of *Gentianaceae*, which was quite disappointing. We only got to see the tightly coiled flowers of *Gentiana nivalis* and *Gentianella tenella*. I couldn't, with the best will in the world, say it was the most stunning find of the stay. *Primula* and *Papaver* do not grow in the area at all, but it would have been very enjoyable to see any of the several interesting, but very rare, species such as *Papaver laestadianum*, that grow in the very far north.

An interesting observation I did make was that *Epilobium angustifolium*, found fairly abundantly on the tall herb meadows, had bright green stems and bright green wavy leaves, whereas the southern form has dark green leaves and reddish stem. I discussed this with a local botanist who would not believe there was such a big difference between the forms, until I found a location where there were populations of both varieties, side by side, which had not cross-bred. S.N.

\*\* Please visit [the Forum](#) to see other notes and photos from Susann's Abisko trip.