

International Rock Gardener

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Harry Jans is very well-known – and liked – among rock and alpine gardeners. Harry has always been warmly welcomed at the Scottish Rock Garden Club events he has attended and clearly he is highly thought of by many other organisations too! He is a popular speaker at SRGC and AGS groups and is particularly admired for his own garden with its remarkable use of tufa to grow to perfection some of the most intractable mountain plants.

Part of the success of his talks is, of course, his excellent photography, which he has honed on his many foreign trips and which can be seen in his website www.jansalpines.com. Harry is a former President of Nederlandse Rotsplanten Vereniging (NRV – the Dutch Rock Garden Association). Harry has also led many overseas trips to considerable acclaim from participants, several of these have been on behalf of the Alpine Garden Society – and indeed he and fellow contributor **Martin Sheader** will both be appearing at the AGS weekend in November this year, just before Martin leads a trip to Patagonia. Incidentally, both Harry and Martin have also received the highest honour of the AGS, the Lyttel Trophy. No wonder our friends in the Czech journal, Skalničky, have enjoyed Harry's photos already! Martin Sheader is as renowned for his work growing and hybridising South American plants as he is for his travels to see and report on them and we are pleased to show here his photos of some Nototriche and their relatives, Acaulimalva, along with **Connor Smith, Ger van den Beuken and Geir Moen** and who share their notes on propagating nototriches. We are always pleased to receive the feedback from readers who are excited by the South American flora – there are not too many of us who can afford to make a trip to those far-away lands of botanic delight!

Cover image: *Gentianella scarlatina* photo by Harry Jans.

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--- Some Peruvian Plants ---

'Andean treasures' by Harry Jans

The Andes, or Cordillera de los Andes is, at 7000 km, the longest mountain range in the world and starts in Columbia and ends in the Southern tip of Argentina with the Aconcagua as the highest mountain rising up to 6961 metres. Most of the countries close to the Andes are at a high altitude of between 3000 – 4000 m. The climate can be very dry with the Atacama Desert as a good example, but closer to the big snow packed peaks the rainfall is much higher and a wealth of plants can be found there. I have had the opportunity to visit Peru on three occasions, always between March 15th and April 15th.

There are many very fascinating plant species in Peru from which I would like to mention just a few.



Puya raimondii habitat near Carretera Pastoruri, Peru at approx. 4245m.

One of the most special plants is *Puya raimondii*. This, known as Queen of the Andes, is ancient, very rare and the largest bromeliad in the world. In some preserved areas of Peru and Bolivia you can see its gigantic inflorescence reaching up to more than 15 m height and 2.5 m diameter. *Puya raimondii* is considered to have the largest inflorescence in the world with around ten thousand flowers and six million seeds on each plant.

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Harry Jans stands by *Puya raimondii*, pass to Pastoruri, 4260m, Ancash Region, Huaraz.

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To grow such a magnificent inflorescence, it saves its strength all its life, which is quite long. On average the Puyas start to flower after 50 years. However, there are species that start flowering after 150 years. *Puya raimondii* is pollinated by bats and large insects. It is monocarpic and the parent plant dies after it flowers and fruits. This species is endangered in the wild with only a few small populations per square km. Very nice populations are found in the Cordillera Blanca on the road to Carretera Pastoruri, a glacier which is easily accessible by car.



Puya raimondii habitat near Carretera Pastoruri, Peru.

In New Zealand one of the special plants is *Raoulia eximia*. In Peru there is a plant called *Mniodes pulvinata* which looks very similar, with small very hairy rosettes and compact cushions. I haven't seen very large cushions such as those *Raoulia eximia* can make in New Zealand. The biggest *Mniodes pulvinata* I found was 40 cm wide.

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Mniodes pulvinata, pass to Pastoruri, 4770m.

Gentianella's are also a favourite plant species for me. Here in the Andes in Peru they cannot compare with the ones in Europe or Asia: the ones in Peru are all real treasures. *Gentianella brunneotincta* is deep yellow and makes flat rosettes and grows in full sun in reasonable dry conditions.



*Gentianella
brunneotincta*
habitat at
Chicarhuapunta
pass, 4220m.

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Gentianella brunneotincta

More spectacular is *Gentianella scarlatina* with its yellow/red balloon shaped flowers. It is about 5 cm tall and I found it only on one occasion, so it is not wide spread. It is very similar to *Gentiana hirculus* from Equador.



Gentianella scarlatina, Pass near Laguna Samaccota, 4445m.



Gentianella ruizii, Abra Malaga, 3970m.

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Gentianella ruizii is pale pink, 25 cm tall with beautiful large hairs in the centre of the flower.



Gentianella luteomarginata, seen here from Mirador de los Andes, 4600m, is very widespread in Peru and grows in more moist conditions.

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Gentianella ernestii, Cusco, Tambomachay, at 3820m.

Very different, with large pink flowers on 15-20 cm tall stems is *Gentianella ernestii*, but the most special *Gentianella* I have seen so far is *Gentianella weberbaueri* which is a tall one with a flower spike up to 40 cm with deep pink to reddish flowers.



Gentianella weberbaueri, Abra Tunel de Kahuish, 4430m, Ancash region, Huaraz, Peru.



Gentianella weberbaueri

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I would like to end with a few examples from my favourite genus from Peru, *Nototriche*.

So far there is only one species of *Nototriche* in cultivation and that is *Nototriche macleanii*. It is not easy and is better grown like a *Dionysia* in the alpine house. Peru and Bolivia are the hotspot for this species. Some species of *Nototriche* have a wide distribution and more a less common, but some are just found in a few locations.



Nototriche digitulifolia, Arequipa to Chivay, 4070m.

Nototriche digitulifolia is quite common. It makes a nice compact plant with tight rosettes and always has stemless white flowers. Very different in shape is *Nototriche*



salina with larger open leaves and red-brown flowers at Mirador de los Andes, 4600m.

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At 4800 m high in the Cordillera Blanca is the habitat of the blue flowered *Nototriche obtusa* which can make very large cushions up to 0.5 m across.



Nototriche obtusa growing through *Austrocyllindropuntia floccosa*.

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Nototriche pinnata grows also at very high altitude and has extremely large white-blue flowers which look from a distance like crocus flowers. Nototriches are mostly white or blue with a few exceptions and one of these exceptions is *Nototriche aristata*, below, with its deep pink flowers. I have seen pictures of deep red *Nototriche*, but so far, I was not lucky to find



one in the wild. That means I have to continue going back to the Andes and try to find it!

If you wish to see more images of Andean Treasures

have a look at www.jansalpines.com and check the Extensive Photo Gallery.

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--- Plant Portrait ---

Nototriche macleanii - Connor Smith

Many of us will have seen or heard of *Nototriche*. A genus from south America which has been a famous plant in the world of rock gardening for some time. Despite having a broad range of species, only one species is cultivated successfully outside of South America – though *Nototriche compacta* has been recorded as grown and produced seed in cultivation. This is *Nototriche macleanii*, it fills a small pad of woolly leaves in a dense cushion, both in cultivation and in the wild. The flowers are typical Malvaceae with a five petaled flower. Although these are uncharacteristic on a cushion which is much less seen with the family of predominantly woody species.



I have grown my small plant which I have had from Ger van der Beuken. I have it in a 75 compost/ bims soil mix in the glasshouse. I only water on the edge of the pot and never on top of the soft foliage. I keep it in the glasshouse and have a heater during the winter months to help with airflow. In warmer temperature, the windows are open and the doors to allow airflow. Water sitting on the foliage/ mould seems to have killed a few plants so this should be

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an important feature. It has been 10 months since I got the single rosettes cutting and it has produced two now rosettes. It bulks up slowly but well.

People seem to have success with cuttings all year round. The plant may get more challenging as it gets larger and with all special plants it is important to propagate them, not only for yourself but for others. I have not heard of anyone successfully pollinating the species, this is unusual for the family as Malvaceae is well known for being self-fertile and gaining a better seed per flower ratio when self-pollinated. This maybe down to a single clone or a self-incompatibility. Although I need to spend more time with the plant and try to pollinate it again. To conclude it is not as difficult a plant as I thought it would be, following simple 'awkward alpine plant rules' no water on foliage, water around the plant and good air flow it will grow.

Ger van den Beuken says:

Nototriche macleanii is one of the most spectacular cushion plants for the alpine house. A species with ash-green rosettes and large stemless violet blue flowers. Propagation only from cuttings as you can see in the photo overview. I grow this sp. In a pure mineral mix with a neutral or a bit lower PH.



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The following images are of his own plants of *N. macleanii*, from Ger van den Beuken:



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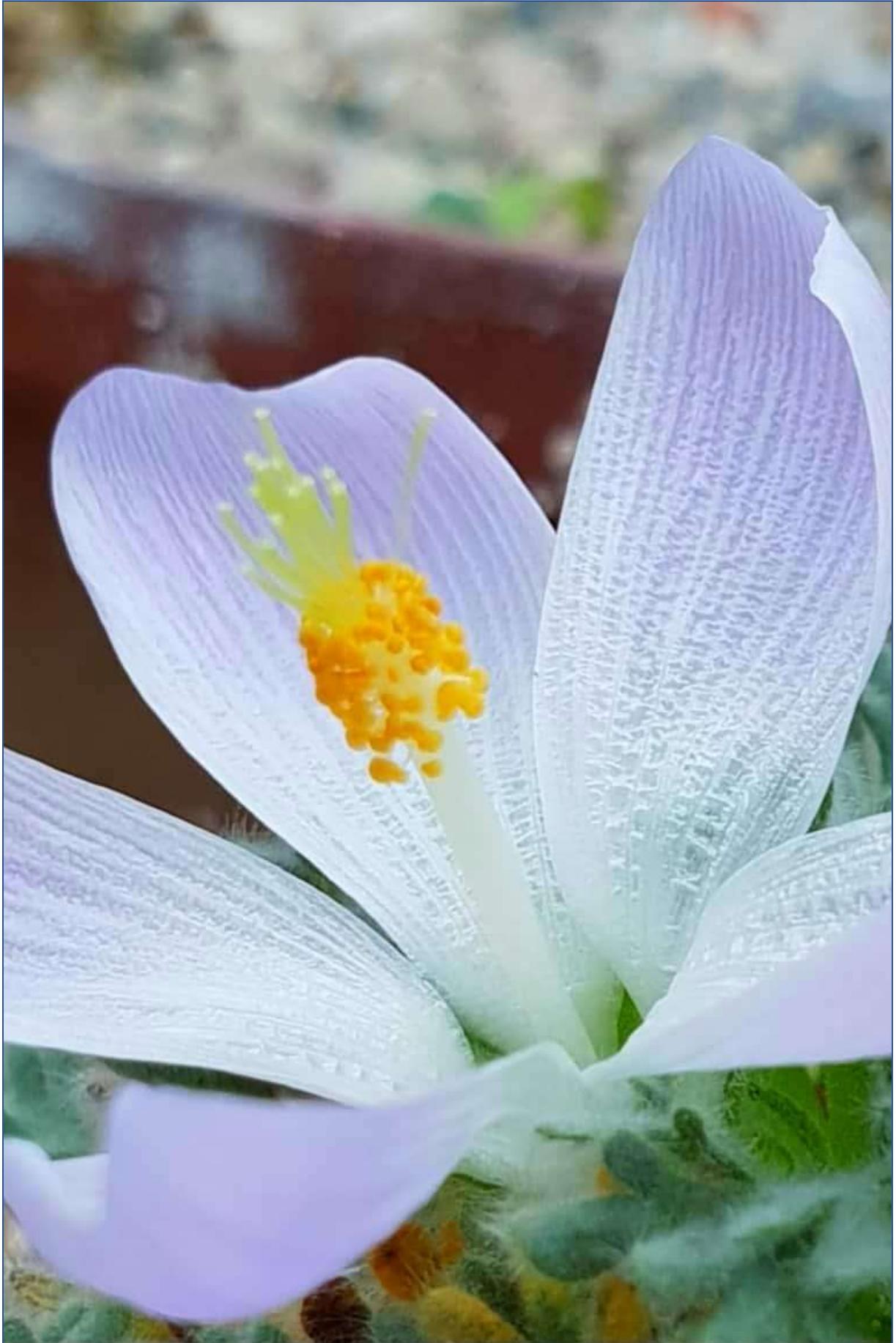
Geir Moen says:

Nototriche macleanii is in my opinion a very nice alpine from South America. It stays compact even in cultivation and have big crocus like flowers. A challenge might be the woolly leaves that can be attacked by fungi in warm humid conditions.

I've had this for some years now, but as I only had two plants I thought I should try to make a few more. I took three cuttings to test it out, and the result was perfect. All three rooted well in four weeks.



Geir Moen's cuttings after four weeks.



A fully open flower of *N. macleanii* from Geir Moen.

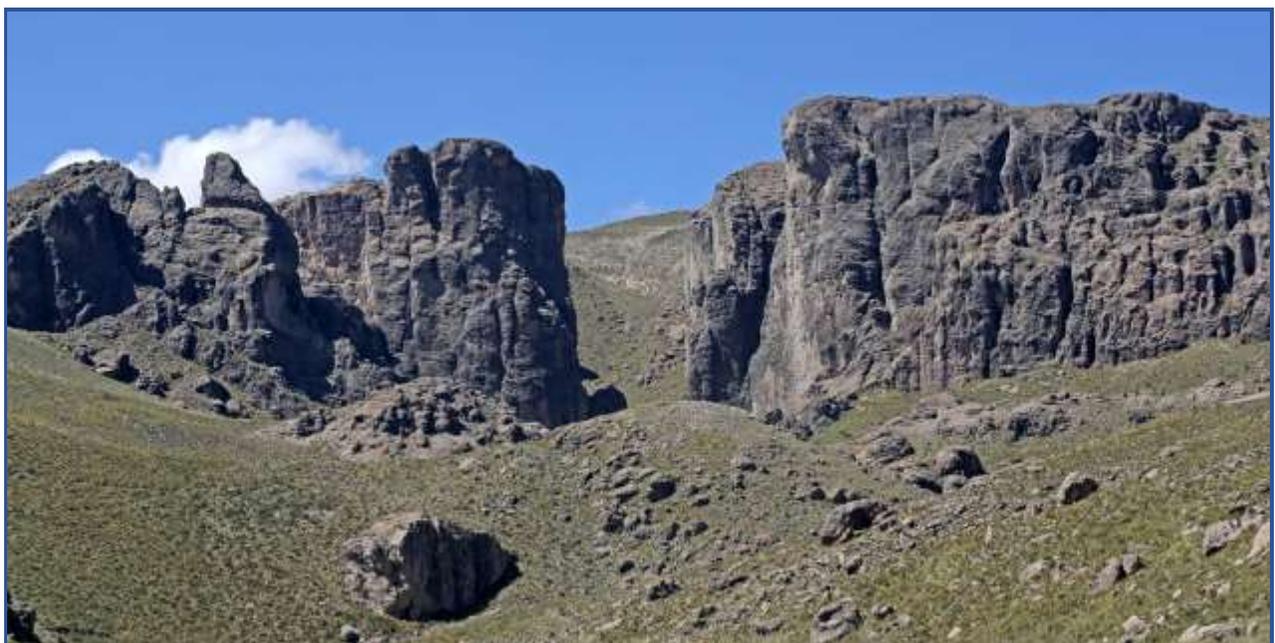
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Martin Shearer , who has extensive knowledge of South American plants, on various nototriches:

One of my favourite genera is Nototriche (Malvaceae)



Nototriche digitulifolia is one of the best, growing here at above 4000m.



Nototriche digitulifolia habitat.

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Nototriche digitulifolia with blue stamens.



Nototriche digitulifolia

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The genus *Nototriche* has its centre of distribution in the mountains of Peru and Bolivia, extending into Ecuador, Argentina and Chile. In December/January 2016 we photographed the southernmost species, *Nototriche compacta*, in the mountains of Central Chile (Valle Nevado and La Parva at 3500-3600m). This species has been in cultivation, but rarely flowers and etiolates excessively.



Habitat of *Nototriche compacta*



Nototriche compacta

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Nototriche compacta



The high mountains of southern Peru are rich in nototriche species, usually with several species growing together with no signs of hybridisation.

Nototriche pediculariifolia is an unusually coloured relatively large flowered species.

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Nototriche pediculariifolia

From a 2018 trip to Ecuador, *Nototriche phyllanthos*, Volcan Guagua-Pichincha at 4570m.



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Nototriche phyllanthos, white form, Volcan Guagua Pinchincha, 4550m.



Nototriche phyllanthos, Cayambe-Coca, Ecuador, 4265m.



Nototriche phyllanthos

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Another nototriche, this time blue flowered. *Nototriche obtusa* grows in the high mountains of the Cordillera Blanca, Ancash, Peru (photographed in April 2016 & 2018). Conditions can be quite wet, growing among rocks, sometimes as a cushion, more often as a mat scrambling through other herbaceous plants (or even cacti!). I suspect this one might be growable.



Nototriche obtusa growing through the cactus *Austrocylindropuntia floccosa*.

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Nototriche obtusa - an enormous mat.



Nototriche obtusa, Llanganuca Pass, Cordillera Blanca, Peru, 4590m.

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Nototriche pinnata, Carretera Pastoruri, Cordillere Blanca, Peru, 4755m.



Nototriche pinnata, Carretera Pastoruri, Cordillere Blanca, Peru, 4755m

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Nototriche pusilla, a minute annual species from Carretera Pastoruri, Cordillera Blanca, Peru, 4790m.



Sometimes, with the lure of plants in flower, it's easier to climb up a rocky, mossy slope than it is to get down!

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Nototriche macleanii grown in a pot by Martin Sheader.

Mid-May is a good time to take cuttings of some species before the weather gets too hot. Here Martin has just broken up an old plant of *Nototriche macleanii* making 80+ cuttings,



rosettes were taken with about 2cm of stem and all dead leaves removed. The rosettes were pushed into a watered fine cornish grit and covered with a plastic propagator top with a little ventilation and placed in a shady spot outside. At this time of year most of the

cuttings will begin to form roots in about 3 weeks. When a few roots are formed the rosettes can be potted up individually and kept in light shade until growth is evident.

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In April 2018 Martin returned from an AGS tour to Ecuador and Peru : “We failed to find a red-flowered nototriche - the season was late, and if it was around, it wasn't in flower and we failed to spot it. We found 3 of the 4 Ecuadorian species, and 3 species in the Cordillera Blanca of northern Peru. The centre of distribution of nototriches is in southern Peru, where flowers are mainly white, mountains are dry with light intensity high. These northern Ecuadorian & Peruvian blue-flowered nototriches are in high rainfall areas, often in dull low cloud. These I think would be growable should seed ever become available.”

Some acaulimalva species seen by Martin in South America:

“A few Acaulimalva from a trip to Peru in 2018. These are close to Nototriche, but easier to grow than their high mountain relatives, if seed is ever available.”



Acaulimalva crenata, Cordillera Blanca, 4475m, Peru. Cultivation comments as for *A. sulphurea*.

Acaulimalva crenata



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Acaulimalva engleriana, Sacred Valley area, Peru, 3700m. This one likes seasonally wet soils.



Acaulimalva nubigena, Sacred Valley area, Peru, 4500m.

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Three images of *Acaulimalva nubigena*.
Cultivation comments as for *A. sulphurea*.



Acaulimalva images by Martin Shearer.

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Acaulimalva sulphurea, Cordillera Blanca, Peru. In cultivation it grows and flowers well but is difficult to propagate vegetatively and is not self fertile. Plants are very susceptible to red spider mite.



Acaulimalva weberbaueri, in Cordillera Blanca, Ancash, Peru, 4180m.