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This is the time of year when several of the IRG team are busy with pruning and cutting back of trees to retain control of our gardens and - we hope - open up some new planting spaces. Our Czech colleague, Zdeněk Zvolánek is on a tour in America, accompanied by Zdena Kosourová. ZZ is speaking in various cities and is also taking the chance to revisit areas of natural beauty – and visit a few gardens, public and private. This gives this month's IRG a double North American connection, as we review some of the plants in the Wappinger Falls garden of Anne Spiegel in New York State. A trip further south takes us to South America, where Chilean based botanists John and Ana (Anita) Watson write of some Patagonian plants.

Cover photo: *Blumenbachia prietea*, photo ARF(Anita Flores Watson).

Clockwise, from left: Kenton Seth shows ZZ around his family garden in Grand Junction, Colorado – photo by Janet Davidson Seth; ZZ with Panayoti Kelaidis in the Denver Botanic Garden, photo by Zdena Kosourová; ZZ and ZZ with Zdena, photos by Nick Courtens from the mountains around Vail.

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SOME FLOWERS FROM THE SPIEGEL GARDEN IN NEW YORK STATE

Cliff Booker, co-author of two books on mountain flowers and a respected photographer, is a man who has visited a large number of gardens around the world. Cliff has described the garden of Anne and Joe Spiegel as "Probably the finest private alpine garden that it has been my privilege to photograph. …….I hope you can appreciate the quality and extent of this 'epic' undertaking - though few of us can imagine the effort and time invested by Anne (and willing workhorse Joe) in this truly splendid (and eternally ongoing) achievement."

Anne herself says: "My garden is located in the Hudson River Valley in New York State, but nowhere near the benevolent river influences. The site is steep, rocky, cold with harsh winds much of the time- it is a series of stepped ledges ending in a small cliff. It faces WNW and is exposed to all the winds of winter - a delightful place for a rock garden." The garden contains partly natural stunning rock work, combined with extraordinary feats of crevice garden construction by Anne and her husband, Joe.

A report by Cliff and further images of Anne's garden can be enjoyed **at this link** to a newsletter of the Berkshire Chapter of NARGS.
In 2011 Anne was awarded the Millstream Award (in memory of Linc and Timmy Foster) by NARGS, " in recognition of her outstanding rock and alpine garden."
There is a description of Anne's garden by Lori Chips in the March/April 2013 issue of the Oliver Nursery News. Readers of International Rock Gardener were first introduced to Anne's garden in IRG17 issue of May 2011.
With these links to other descriptions of the Spiegel garden, it is not our intention here to cover the whole of this wonderful garden, merely to whet your appetite by showcasing some of the plants from it, illustrated by Anne in the SRGC Forum, mostly over a few weeks in 2018, presented as comments from Anne, with occasional interjections from other forumists about the photos.

Penstemons in May in Anne's garden.

Part of the Spiegel garden - photo by Cliff Booker

Anne on the subject of crevice gardening: “It’s true that most of us want to imitate Nature in our rock gardens and it's also true that Nature operates on a vast scale and makes it almost impossible to imitate exactly. Our crevice gardens have to be smaller, and most of us want to plant every available inch. I do like to see multiples of the same plant following a crevice line if possible. That's the way I see it so often in Nature and I do try and do that here in certain areas here. Walking in the mountains shows us plant combinations and new crevice ideas to try and that's always challenging and fun. You might say we are in the midst of a crevice garden craze, but surely one of the main reasons for that is that so many plants do incredibly well in them.”

As May progresses there is more color coming to in the crevice gardens. Everything is quite late.

Close Crevice – all photos by Anne Spiegel unless stated otherwise.

May 6: *Daphne velenovskyi* 'Balkan Rose'

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May 11: *Androsace villosa*

May12: *Astragalus barrii*

Lori Skulski commented :
Astragalus barrii is a cute one - reminds me of our native *Astragalus gilviflorus*, with the flowers peeking out of the cushion of leaves. The flowers on this one are relatively large, but are tucked deep into the foliage.... our native *Astragalus gilviflorus*, which occurs in habitat (dry prairies and rocky outcrops) in the southern part of the province of Alberta.


Astragalus gilviflorus, photos Lori Skulski

Anne replied: When Claude Barr discovered *Astragalus barrii* he was in the midst of a colony of *A. gilviflorus* which is somewhat similar. *A. gilviflorus* has larger flowers that are stemless, though. I find it very, very difficult to keep.

May 16: Above: *Arenaria tetraquetra,* another really nice crevice plant that seems happy. Below left: *Genista depressa* at top of cliff in natural crevice and right: *Erigeron scopulinus*


Right: *Veronica oltensis,* left: *Penstemon davidsonii menziesii* 'Microphyllus'

Globularia repens 'Nana'

These are great crevice "filler" plants, just easy doers that act as connectors. I'll put in more of them little by little and they won't interfere because they are not planted in long crevices where they could run. Since these crevices are finite, time will tell if the plants will be successful long term. The crevices are deep but not particularly wide. Just another ongoing experiment. My garden seems to be full of those.

May 16: Rain and humidity and it's only May, yuk! Keeping a careful eye on the pods of *Astragalus loanus* and hoping the weather will dry up soon so they don't rot.
More plants in the crevice beds every day.

Penstemon spatulatus

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Left: *Genista depressa* in crevice garden and right: a *Penstemon* species

It's also genista and cytisus time in the crevice garden. They are planted in many places and they really punctuate the rock with marvelous color.

May 19: Very, very busy here. I'm going to try some before and after construction pictures of the crevice gardens at the top of the garden. (They'd be better if I remembered to photograph while working). Countless loads of mix and countless rocks set with the natural slabs of ledges acting as the "bones" and basically directing what I do. It's more an act of listening than an act of creating. In some of the pictures you can see some rebar - that's marking the presence of a piece of ledge which is only 10" down. It will tell me what I can plant there. In an unwatered garden it would be easy to fry some things with so little depth of soil.

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Construction in progress- showing rebar posts to mark an underlying natural rock ledge

More pictures of rock. And then some plants.

The *Globularia* is happily creeping and covering multiple crevices. It has eaten several plants on the way but obviously it's the survival of the fittest. The plants that can't protect themselves are planted out of harm's way.
The *Dianthus freynii* is planted in a natural crevice on the back of the cliff.

Left: *Globularia repens 'Nana'* and right: *Dianthus freynii*

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A few more. The *Astragalus loanus* pod is very fancy. It's actually red but is so covered with white hairs that you can't really tell. The *Collomia debilis* is a marvelous plant. I've seen it in the Wallowa mountains above the treeline, growing in absolute rubble with no visible soil. It just kept popping up out of the rubble so it must have a very extensive root system like the gem of the genus, *Collomia debilis* var. *larsenii*.

Astragalus loanus pod

Collomia debilis

Aubrieta gracialis

Oxytropis species

Edraianthus montenegrinus

Penstemon davidsonii menziesii 'Microphyllus' – here in full flower

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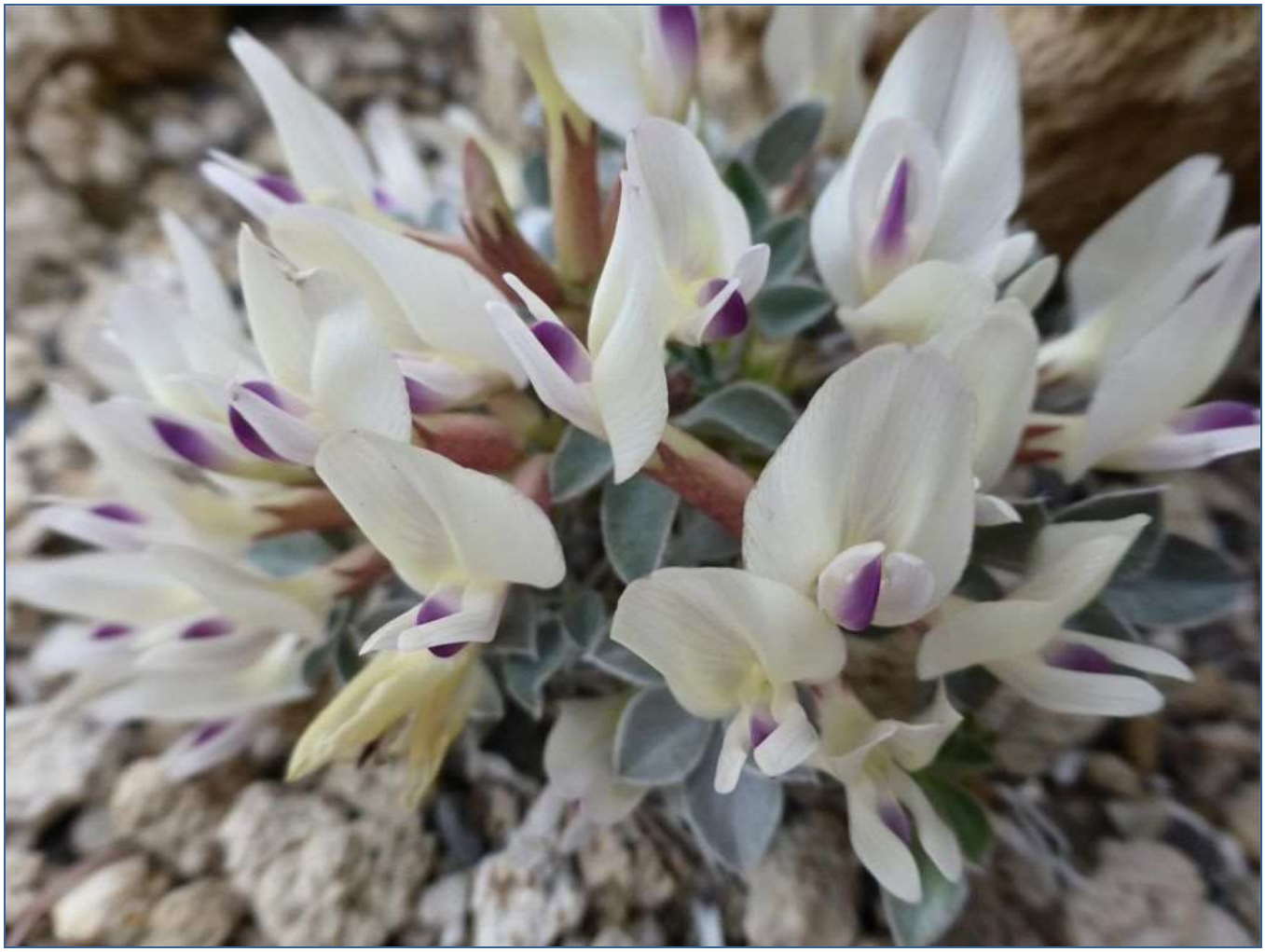

Astragalus loanus - photos Lori Skulski

Lori Skulski: *Astragalus loanus* is blooming heroically this year, and I suddenly "get" why rock gardeners might seek it out!

Anne: Maybe this is just the year for *Astragalus loanus*. Great pictures of your plant and I hope you get lots of pods for seed.

May 22: Something new is happening daily, such an exciting time in the crevice garden.

Eriogonum umbellatum subsp. *porteri*

Saponaria 'Bressingham' - with lichens on the rocks

The lichens have been there forever. A Geologist once visited and immediately said, 'you have really pure air'. The rocks that were uncovered during the digging out of the rock garden have also acquired lichens. One steep slab of rock has a sheet of moss despite full sun all day. It's rather treacherous to be on it even when it's dry. One visitor thought I should be growing things on the moss.

May 25: A very bright, sunny day for a change. Bad for photography but I had to take a couple anyway. The *Penstemon debilis* is an absolute gem to my eye. The leaves are really blue. It grows in a geographically restricted area and one that is extremely hostile, if not perilous, to seed collectors - in a steep sliding scree atop perpendicular cliffs and below other perpendicular cliffs. The seed collector in this case was Alan Bradshaw of Alplains Seed. I hope everyone is well acquainted with this catalogue. *P. debilis* actually put out some flowers in the fall and then the temperatures bottomed but it survived and has many, many buds. You can see the effect of our recent damp and rain on the leaves but it's still beautiful.

Penstemon debilis

More in the crevice garden: this small plant of *Arenaria hookeri* is on the back of the cliff.

Asperula sp. in the crevice garden

May 30: This is certainly becoming dianthus time. They seem to like full sun in the natural crevices on the back of the cliff. The labels were lost to deer. A couple of them are even fragrant. It's also convolvulus time. The one shown is in a crevice on the back of the cliff and looking happy. This site gets sun all day long and a lot of wind as well.

Above right: *Dianthus arpadianus* is planted in a steep crevice on the back of the cliff in full sun.

This photo, by Cliff Booker, shows one of the mass plantings – and flowering – of Western Phloxes in Anne' garden.

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Convolvulus suendermanii

June 11: Gloomy and misting this morning, but good for photographing. I just walked down the driveway and took some shots. This is what the lower garden looks like in early June, when the brilliance of phlox and gentians and daphnes has gone. Subtler overall but not necessarily when close up.

Right: An area next to the driveway and within reach of the snowplough - thus everything is allowed to self-sow there with abandon - the snowplough is sure to thin things out! Some of the plants: *Arenaria, Anthyllis, Iris, Penstemon, Phlox douglasii, Dianthus, Coronilla, Ononis* sp., *Symphyandra, Chrysanthemum weyrichii* and so on.

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An unknown *Arenaria* (left) has been blooming and spreading beautifully for years now. No visitor has ever identified it. The flowers are a sharp white and large for the size of the plants.

The next picture (below) is of the lowest of the raised beds in typical June color. In a few weeks there will be lots of purple and blue from *Dalea purpurea* and *Penstemon mensarum* etc.

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June 15: The crevice gardens are continuing to please. Every day's morning tour finds something to photograph. You can't photograph much beyond 9 am because the sun is so bright the photographs are totally washed out. Lately, of course, we haven't seen much sun - just too much rain. The potentilla and helianthemum are in a crevice at the top of the cliff - nice size for distant viewing.

Left: *Campanula betulifolia* in the newest crevice garden. Right: *Potentilla davurica mandschurica* and *Helianthemum nummularium* on the top of the crevice.

Helianthemum nummularium – possibly (probably?) the cultivar 'Annabel'

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Some more at the top of the cliff, *Centaurea biokovensis* starting into flower, *Moltkia petraea* and one flower of *Leontopodium nivale* (very disappointing!).

A couple more at the top of the cliff -
Above: *Bolax glebaria*
Right: *Moltkia petraea*

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June 22: Getting better and better, *Centaurea bikovensis*.

Penstemon thompsonii var. *desperatus* in a trough.

It does well in the rock garden if you can give it a space in full sun and free from competition. A really lovely plant but difficult to photograph well. I sow the seed directly and then collect the seedlings from the trough the next year.

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June 22: *Arenaria hookeri* is pictured growing in a trough but it is also in bloom in the crevice garden. It's very interesting how *Arenaria hookeri* starts growing in cultivation. In its native haunts, it forms a dome. Some of them get sizeable and must be at least 50 years old. In the garden, it often starts out life with a lumpy shape (sometimes almost a mat). After a few years it starts to bulk up instead of spreading and it will form a small dome. It's very floriferous.

Blooming now, *Penstemon cobaea*, about 15" tall and a great background plant. I need to remove seedlings early because they immediately send down a deep tap root.

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It's hard not to love these huge tubby flowers of *Penstemon cobaea*.

July 1: *Astragalus lutosus*

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July 18: This is a photo of *Astragalus lutosus* with seed pods forming. It continued to bloom for weeks and make seedpods at the same time.
All in all, just a wonderful plant.
Astragalus lutosus is such a favorite of mine that it is my photo on Facebook. For the first time it has made seed pods in the garden and I collected the seed. The foliage is absolutely beautiful. Each leaf folds up on the sides and looks like it has a silver edge, very fancy. What you are actually seeing is the edge of the silver hairs that cover the underneath of each leaf. It's planted in the upper crevice garden which is exposed to sun all day and is one of the windiest spots in a windy garden. It has relished this dreadful summer of heat and drought. Most of our summer rainfall comes from thunderstorms, which are very hit or miss, usually miss.

Zauschneria californica 'Etteri' (*Z. californica* is now considered a synonym of *Epilobium canum*)

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August: A few things flowering (or not) in the crevice garden.

Zauschneria californica ‘Etteri’ has been flowering gently since the end of July, way ahead of schedule. Hopefully, the heavier bloom is yet to come.
Also *Zauschneria californica* ‘Wayne's Select’, new to the garden this year and much sought after for its silvery foliage. Sharp eyes might spot the single bud showing so far! These plants are really for interest from late August almost until the frost hits.

Zauschneria ‘Etteri’ pictured in full flower in October, is commented on in glowing terms – along with Anne’s garden – on social media by the incomparable Panayoti Kelaidis.

Panayoti Kelaidis @Telesonix · Oct 8
Zauschneria cal. 'Etteri' blazing away in Ann Spiegel's incomparable NY rock garden. Great plant great garden!

---In Patagonia---

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MORE ROSULATE SCOOPING

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Introduction

This chronologically, geographically and taxonomically related series of linked narrations serves as an ecological and habitat background for a trio of Andean violas (sect. *Andinium*) we have found in Patagonia, two of them new to science. Formal taxonomic descriptions and revelation of their mutual kinship will follow.

Viola rugosa Phil. ex W. Becker, collected in 1860

When all three had been housed in our personal herbarium, we realised how very closely interrelated they were, as well as being 'near neighbours'. We therefore began to plan publishing them together. This process involves circumscribing any novelties in full detail, as well as relating them to their nearest allies and explaining how they differ and are unique.

After our 25 years spent specialising in this large group of over 100 species, which extends from the equator to southern Patagonia, they are now as familiar to us as is possible in the light of existing knowledge. Checking our section *Andinium* type description file, we concluded that only one known species related closely to our three, but very closely indeed, and it was also as near in appearance to them as they are to one another. A curious irony: all our discoveries occur exclusively in the Argentinian province of Neuquén [fig. 1], while the earlier, described species, *Viola rugosa*, was only recorded at one site in adjacent Chile!

fig.1: Map of Argentina, with the province of Neuquén, where all three species are located, outlined in red.

It had been found by the famous German-born botanist resident in Chile, Rudolph (Rodulfo) Philippi, and he had deposited it at a herbarium in his native land. He wrote its intended name on his specimen sheet, but for some reason never had it published. It was 'unearthed' 66 years later by Wilhelm Becker of Berlin, the all-time historical *Viola* expert, especially of those from the Andes. In 1922 he described it in one of his many papers of the genus, preserving Philippi's proposed epithet.

So far so good, but not quite as good as we'd like it to be, unfortunately. Two difficulties stand in the way of a completer knowledge of *V. rugosa*. Firstly, it has never been seen again in Chile since Philippi's encounter with it. Secondly, the one and only specimen at Berlin

was destroyed during an allied bombing raid in 1943. Nevertheless, Becker's comprehensively detailed protologue of its morphology is more than adequate to compensate for this, and leaves us in no doubt as to its appearance, differences and relationships.

fig.2: One that got away. Volcan Longaví, an intended destination we haven't reached. The third of this allied group of violas, *Viola rugosa*, was found in the Andes there. (19 Nov 2009. JMW)

As may be supposed though, we were more than anxious to clap eyes on it ourselves in situ, photograph it, and add it to our pressed collection, not least as we had decided to make it the informal type species of this distinctive little group of three. *V. rugosa* was collected in the Cordillera de Linares, a local Andean mountain range at around 36º S, its high point the mighty volcano known alternatively as Nevados de Longaví or San Pedro [fig. 2]. We planned to explore there during a long hunt for violas in 2014 if time and sufficient funds allowed - but we ran out of both. The opportunity had never occurred before or since. In fact access is by no means easy, requiring trekking in and out over two or three days, and much climbing that is now beyond us. So the rediscovery there is down to others of lesser years. But read on ...

fig.3: *Viola rubromarginata*, discovered in 1994 and first of our three new *V. rugosa* alliance species. Here at E edge of the Lagunas Epulauquén, Neuquén, Argentina. (21 Jan 2008. JMW)

***Viola rubromarginata* J.M. Watson & A.R. Flores (ms), discovered in 1994**

One of the two easiest of this group to encounter, and with several approximate but scattered populations in the Tromén Regional Nature Reserve, our soon-to-be described *V. rubromarginata* [fig. 3] is already familiar to several ecotourists from the rock gardening

world and to the Argentinian botanical community in Patagonia. It and one of the others have even been discussed on Internet websites.

fig.4: F. & W.10626 *Olsynium bodenbenderi*. Paso El Choique, Mendoza Province, Argentina.
(23 Dec 2002.JMW)

Below: fig.5: *Sisyrinchium laetum*. Cerro Waylie, Parque Tromén, Neuquén, Argentina.
(24 Dec 2002. ARF)

When Stephen Pern and I (John) made our field trip to Patagonia in 1987 and 1988, our main aim was to get way down south to the Tweedie ranch as quickly as we could, and return when finished with equally few stops. Despite this, we did make two short diversions in Argentina en route. One was the easily accessed Las Leñas ski centre not too far south at the beginning of our journey. Brian Mathew had also kindly indicated a site for a superb little irid with a rather ungracious Latin name, *Olsynium bodenbenderi* [fig. 4], which was a 'must' to hunt down on our way. The location was the El Choique (rhea in translation) Pass, only slightly north of the border with Neuquén province where the present violas are endemic. As if notching up one little jewel of an irid there wasn't enough, we actually added another at El Choique, which was to have significance for us in the future. It had been named *Sisyrinchium macrocarpum* subsp. *laetum* by Ravenna, but like most alpine garden enthusiasts, we know *S. macrocarpum* well from cultivation, and it was nothing like it. So in 2010 we changed its status to full species, *S. laetum* [fig. 5].
Stephen and I came down late off the pass, tired and short of food, so we decided to stop off for the night at the nearby small town of Chos Malal, the accommodation centre and starting point for the Tromén Park. Not that we had any idea then even of its existence, let alone its floral riches.

fig.6: The remarkably different F. & W.10632 *Viola escondidaensis*, the reason for our initial Tromén visit. First time was unlucky, but we chalked it up on our list a few years later. (24 Dec 2002. ARF)

In fact we might never have entered the park at all but for Anita's friend the late Ricardo Rossow, author of Violaceae in Flora Patagonica. In it he provided us with two juicy *Viola* clues which we simply had to follow up, and which led indirectly to *V. rubromarginata* and the next species. With no previous knowledge of *Viola*, he was requested to tackle the genus in Patagonia at very short notice, and consequently made a series of botch-ups through no entire fault of his own. The first, and perhaps his most glaring error, was to omit that utterly untypical viola of the rosulate group, *V. escondidaensis* [fig. 6], which is not in fact rosulate and spreads by rhizomes among bunch grass as a means of escaping herbivores. Ricardo had simply overlooked its existence in botanical literature. But he later found it by chance in the Tromén Park, told us Watsons, and we set off there to try to find it in 1994. To our intense disappointment we failed that time, but all was certainly not lost. In the first place it opened our eyes on the spot to the wealth of the park's flora. While hunting fruitlessly for our quarry in the bunchgrass at the park entrance, we could hardly have failed to miss a large colony of showy lime-greeny yellow *Myostemma* (syn. *Rhodophiala*) *mendocina* [fig. 7] on a bare ridgetop, and we also happened on a colony of discreet (to say the least!) little camouflaged annual *Viola tectiflora* [fig. 8]. Both were new for us. We were sufficiently encouraged to stay and explore for a day or two more, and were rewarded well for our pains by an ever increasing number of dwarf steppe plants and bulbs for camera and press. The park is bisected north to south through its centre by the double-scarped-sided Cordillera del Viento (Windy Mountain Range), with the impressive 4707 m high Volcán Domuyo as its northern end-point. To get from the eastern to the western half of the park one has to drive around the cordillera's southern end. This we did, continuing along the minor country road which runs below to the west of the mountains and parallel with them, passing through the small hamlet of Andacollo and on towards Las Ovejas.

About halfway between these communities a small dirt loop road diverges to the foot of the Cordillera del Viento. We took it because it looked attractive, it was time to stop and camp somewhere suitable, and in case any interesting plants happened to be on show. It fulfilled all those promises. We stopped beside a delightful little tumbling stream, and looked around briefly before setting up the tent and cooking our meal. Anita gave cry of excitement. She had found *Viola rubromarginata* nestling below a small rock outcrop, and there were more around. We instantly recognised it as a new species, our very first as a life and working partnership. That will be its type site.

fig.7: On that first visit to Parque Tromén, Neuquén, Argentina, this showy *Myostemma mendocina* caught our eye, flowering in the bunch grass where we hunted in vain for the violas. (20 Dec 1994. JMW)

fig.8: Well, not quite in vain. At least the more typical cryptic annual *Viola tectiflora* (F.& W.10633) was added to our Viola list. Parque Tromén, Neuquén, Argentina. (24 Dec 2002. ARF)

On visits in later years we came upon a few more populations, as have others. The most memorable was right at the western edge of the park near the border with Chile. There, below the main Andes, lie two joined lakes called the Lagunas de Epulauquén [figs. 9, 10].
Unlike the type locality, which although at the foot of the so-called Windy Mountains, was in fact very sheltered, the lakesides are exposed to frequent driven cold air off the water from the mountains, which bend and flatten the wiry bunch grass like hair under a drier. But not only *V. rubromarginata* makes itself at home at the eastern end of the lakes. Martin Sheader informed us of another viola in the very same grass-tufted, sandy habitat [figs. 11, 12]. We have yet to pin down its identity. Although obviously very close to *V. dasyphylla*, there are also subtle differences, so it may be another new taxon. Nor does it end there. At the western end of the lake, in volcanic sandy clearings between scrubby patches, is yet another *Viola*, this one our new *V. farkasiana* [fig. 13], described in IRG 101 of May this year. That is not by any means the finish of the viola story by a long chalk either in this cornucopia of biodiversity.

fig.9: Thankfully, far better lay in store. As we penetrated into the Tromén park, Anita found the new *Viola rubromarginata*. Here one of its locations, the Epulauquén lakes. (21 Jan 2008. JMW)

fig.10: Twixt sun and showers. The forcefully windswept E shore of the first Epulauquén lake, our personal second location for *Viola rubromarginata*. (24 Nov 2009. JMW)

fig.11: Anita prone by the Epulauquén lakeside. She could be sheltering from the relentless wind, but no .....(24 Nov 2009. JMW)

fig.12: ..... She's photographing our next viola, also beside the lake. It looks different from others, but that's as far as we've got without further investigation! (24 Nov 2009. ARF)

fig.13: Tromén Park is stuffed full of rosulate viola species. Here's a fifth beside the lakes, our new *Viola farkasiana*. (25 Dec 2002. ARF)

fig.14: Near the lakes - a southern species of tuco tuco, *Ctenomys*, South American tunnelling rodents. They eat bulbs! This luckless little chap is dead though. (21 Jan 2008. JMW)

Unsurprisingly, the park is also a fount of interest for its wildlife; and even with us lacking time to sit and observe, much has been noted and some photographed. They include a rare lizard, endemic to the sector and only named for science fairly recently: also the shy, elegant white-necked heron, a ringer for the northern grey, but a foot taller again. An equally impressive bird, the Magellanic horned owl, acted as sentry above the park entrance, standing stiffly to attention on a rock and glaring down with baleful yellow eyes as we drove through. Water birds and waders are frequent, outstandingly the common Chilean flamingoes, which stride regally across the little lake snuggling down between the Tromén and Waylie volcanoes [fig. 19]. A sad reminder near the Epulauquén lakes of this other aspect of natural history came to light once when we thought we'd surprised a small, furry, burrowing rodent during one of its rare above-ground moments, but it turned out to be lifeless [fig. 14].

fig.15: Snap - at it again! Cameras at 30 paces. Anita in a drift of *Calandrinia affinis* clotting a damp Epulauquén hollow like primroses in British woodland. (24 Nov 2009. JMW)

Near the lakes, as elsewhere throughout the Tromén reserve, a good number of the Montiaceae (formerly Portulacaceae) bear witness to its biodiversity. We accounted for three on film (or chip, to be digitally precise!) of these delightful little Andean and Patagonian steppe dwellers. As ever, *Calandrinia affinis* dominated their show en masse in any damp spot [fig. 15], here with tight posies of its usual large, snow-white, multi-petalled blossoms clustering down at the centre of restrained grassy foliage. Not all Tromén wildlife is welcome though, as witness a grasshopper which had reached *Montiopsis cistiflora* first, and begun to ruin it for us by biting chunks off the petals [fig. 16]. We had better luck though with superb *Calandrinia graminea* [figs. 17, 18], recording in perfect condition its comparable but even more expansive white corollas than those of *C. affinis*. Via our past horticultural personae these mouth-watering calandrinias have led to as much frustration for us in their near 100% refusal to germinate, even for the most skilled plantsmen, as so many other Andean beauties, not least rosulate violas. How can it be that their almost identical North American sisters, the lewisias, are everyday fodder for alpine nurseries, while thousands of healthy, shiny black seeds of these intransigents won't even throw forth a single pair of cotyledons?

fig.16: How one individual's tasty meal ruins another's photo opportunity! This is a second Epulquén *calandrinia* type; *Montiopsis cistiflora*. (12 Jan 2008. JMW)

fig.17: Making up the third of the calandrinia relatives at Epulauquén was the choice *C. graminea,* here a dwarf form photographed elsewhere in the park. (6 Feb 2003. ARF)

fig.18: The gorgeous silky flowers of F. & W.10695 *Calandrinia graminea*, depicted at the Upper Barrancas valley, Parque Tromén, Neuquén, Argentina. (6 Feb 2003. JMW)

fig.19: On our way back across the Tromén nature park to our Chos Malal base once, we passed this stately quartet of Chilean flamingoes below the eponymous volcano. (25 Nov 2009. JMW)

fig.20: *Viola rugosa* at Cerro Crestón, Cajón de los Nevados, Departmento Minas, Neuquén Province, Argentinian Patagonia. (7 Feb 2003. ARF)

We have revisited the Tromén nature reserve on a good number of occasions since, with new species piling up all the time, and not only other violas like the following either.

***Viola* sp., encountered in 2003**

Here [fig. 20] we have the second, and by far the rarest, of these related violas, also found in the Tromén Park. We owe this one as well to Argentinian botanist Ricardo Rossow.

Probably his biggest blunder in Flora Patagonica (after leaving out *V. escondidaensis*) was his treatment of *V. coronifera* [figs. 75-77]. He told us he had tried to reach it by toiling up the type site, Cerro Colohuincul, a steady, but long and demanding climb in a day, even by the easier routes, as those who've done it can testify. Before the upper reaches *V. coronifera* inhabits he was obliged to turn back, so never saw it in situ. There were no reference specimens in Argentinian herbaria at the time from that original location. However, he did find one that appeared to him to agree largely with Becker's description. It grows around 500 km to the north of Colohuincul, at the junction of Neuquén and Mendoza provinces. Above all, it had an equivalent long lower petal spur, something unusual enough in the Andean violas as a whole, and otherwise unknown in Patagonian species. So despite its white flowers with violet veining and differently positioned petal hairs he assumed it must be *V. coronifera* - until we told him otherwise! Had he lived longer, he might have travelled down south again some time and discovered what his 'V. coronifera' really was - as we did. For to us it was immediately obvious that his plant could not possibly be either true *V. coronifera* or anything else that had been published. But then he might never have had a viola named for him ...

This 'mystery species' was first collected in 1970 by a large group of Argentinian botanists on horse-back, who explored from the top end of Neuquén down the Sierra de Cochicó range to Volcán Domuyo, then continued along the Cordillera del Viento to its southern extremity. They encountered it during February in the relatively inaccessible Andean upland country of the extreme north of the province, right at the start of their trek. Rossow himself also collected it close by in 1985. The sector [figs. 21, 38, 48] is only accessible by vehicle along primitive tracks; either from the east or the south, and these are frequently snowed under or washed out for much of the year. Although we knew where to look, we were stymied twice by impassable conditions until we finally made it a third time lucky in 2003 by the east-west route, following the valley of the Río Barrancas [fig. 51] for all but the last mountainous kilometres.

But, oh, it was worth it on so many floral accounts! Our cameras were kept perpetually busy from shortly after the starting point at Barrancas on the direct National Route 40 down to southern Patagonia. Even before reaching our destination we'd added several to our list, including the little composite *Hypochaeris hookeri* [fig. 22] with its greyish, thread-like foliage. Like many of the species here, it's a Patagonian endemic.
The fun had hardly begun. Soon they were appearing right, left and centre. When we arrived in the late afternoon we encountered a most friendly local goatherd [fig. 48] (Goats? In a nature reserve???), who invited us into his capacious tent to dine off the tasty barbecued meat of one of his former charges, and we erected our small camping version alongside, shared for the night with his adoring, affectionate cat Solito (of which more anon).

fig.21: The second known site of *V. rugosa* and first in Argentina is the S base here of Cerro Crestón, Parque Tromén, Neuquén, Argentinian Patagonia. (7 Feb 2003. JMW)

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fig. 22: F. & W.11592 *Hypochaeris hookeri* at the Southern entrance to Tromén regional nature park, Neuquén, Argentinian Patagonia. (12 Jan 2008. JMW)

fig.23: F. & W.10696 *Montiopsis cistiflora* again, this time pristine, untouched by its grasshopper gourmet! Cerro Crestón, Neuquén, Argentina. (7 Feb 2003. ARF)

Morning saw us start even more frenetically than we'd left off the day before. In quick succession, one after the other, each almost before our camera shutters had finished clicking from the last, we took *Montiopsis cistiflora* [fig. 23] - this time undamaged, prostrate glaucous *Leucheria candidissima* [fig. 24], the equally glaucous, but absolutely erect herbaceous *Senecio gilliesii* [fig. 25], colour variants of dense, cushion-forming *Junellia azorelloides* [figs. 26, 27] (Verbenaceae), and one of those we dub 'stinging lampshades', *Blumenbachia* (syn. *Caiophora*) *prietea* [figs. 28, 29]. Not for the first time in the park we came across *Myostemma* (syn. *Rhodophiala*) *montana* [fig. 30]. This species is very common just across the border in Chile, so it's hardly surprising to find it at Tromén. What is almost inexplicable though is

that despite our own records in various places there, as well as its inclusion in Martin Sheader et al.'s 'Flowers of the Patagonian Mountains', it is not listed for the flora of Argentina. Could it be their botanists have identified it as similarly coloured *M. elwesii*?

fig.24: F. & W.10702 *Leucheria candidissima*. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

fig.25 and 25a, below: F.& W.10699 *Senecio gilliesii*. Cerro Crestón, Neuquén, Argentina. (7 Feb 2003. ARF)

fig.26: F. & W. 10698 *Junellia azorelloides*. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

fig.27: F. & W. 10698 *Junellia azorelloides*, a white form. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

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fig.28: *Blumenbachia prietea*, a member of the mainly stinging Loasaceae family. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

Below, left:
fig.29: *Blumenbachia prietea*, showing its urticant hairs. Look and admire - don't touch! Cerro Crestón, Neuquén, Patagonia.
(7 Feb 2003. ARF)

Below right: fig.30: We've photographed *Myostemma montana* at Tromén on various occasions, but it's not recorded for the flora of Argentina. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

All those grew in raised, rocky, well-drained habitats. Grassy snowmelt seeps provided us with a quite different but no less appreciated dwarf flora. First to hit the eye, as usual, was a large colony of *Calandrinia affinis*: not the standard, familiar ubiquitous white form though, but the most spectacularly colourful spectrum we have ever seen [figs. 31-33]. Accompanying it in far lesser numbers were what

looked like a very glorified lawn daisy, *Symphyotrichum glabrifolium* [fig.34], and a completely stemless, concise version of that equivalent garden pest, the dandelion, which in fact was another and very different *Hypochaeris* - *H. acaulis* [fig. 35].

fig.31: F. & W.10703 *Calandrinia affinis* in habitat. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. JMW)

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fig.32: F. & W.10703 *Calandrinia affinis*, a pale, but still pink form of this usually pure white species. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. JMW)

fig.33: F. & W.10703 *Calandrinia affinis*, a dramatically eye-catching form from this remarkably variable population. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

Above: fig.34: *Symphyotrichum glabrifolium*. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

fig.35: *Hypochaeris acaulis*, living neatly up to its Latin epithet. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. ARF)

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fig.36: F. & W. 10706 *Nassauvia lagascae* var. *lagascae*. Cajón de las Nevadas, Neuquén, Argentina. (8 Feb 2003. JMW)

fig.37: F. & W. 10701 *Nassauvia lagascae* var. *lanata* forma. *solitaria* (forma nova). Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. JMW)

The following day we logged *Nassauvia lagascae* var. *lagascae*, a familiar enough neat Andean species, but nothing like as exciting as the hitherto unknown yellow form of one of its other varieties collected and photographed on that first day, and described as new for science in the appendix at the end of this article [figs. 36, 37, 47].

But even these paled into insignificance and faded into the background when we found a viola that afternoon. We were beginning to suffer growing disappointment and frustration at failing to catch sight of Rossow's viola after so much diligent searching, and having come all that arduous way. No, this wasn't it. We had stumbled on another of the park's abundance of the genus. Goodness knows how we managed to spot its few, scattered little camouflaged rosettes, blending perfectly into their sweeping habitat of bare, brownish rock fragments [fig.20] below Cerro Creston [fig. 21]. It resembled *Viola rubromarginata* to a degree, but nothing else we knew well ourselves. Nevertheless, species we were unfamiliar with had been published from just across the border in Chile at this exact latitude. So we contained our expectations until returning home to Los Andes, where our viola files revealed that despite insignficant differences, it was identical to the *V. rugosa* of Becker and Philippi as in our opening paragraphs here, and we can confidently identify it as such. Well, although we would undeniably prefer it to have been brand new, at least we rediscovered a 'long lost' species and also added it to the flora of Argentina for the first time, which is next best thing. So thanks Ricardo, may you R.I.P.!

The next day, after another nocturnal tent-sharing sleep with Solito, the icing was put on our cake by the eventual discovery of our original viola quarry further along the track in the Cajon de las Nevadas [figs. 38, 48]. We have subsequently and appropriately published it as *Viola rossowiana* [figs. 39, 40].

fig.38: Nearby Cajon de las Nevadas, type site of *Viola rossowiana*, extreme northern Neuquén Province, Argentinian Patagonia. (8 Feb 2003. JMW)

fig.39:
F. & W.10705 *Viola rossowiana*,
our reason for being here, on discovering it at the type site, Cajón de las Nevadas, northern Neuquén, Argentinian Patagonia.
(8 Feb 2003. JMW)

fig.40: F. & W.10705 *Viola rossowiana* J.M. Watson & A.R. Flores at its type locality. Cajón de los Nevados, Dpto. Minas, Neuquén Prov., Argentina. (8 Feb 2003. ARF)

Even then the possibilities of the area were far from exhausted, and we continued to add to our inventory of the local flora. Notable augmentations were delectable dwarf sisyrinchium-like *Olsynium frigidum* [figs. 41, 42], the strikingly chocolate-coloured form of *Tristagma nivale* [fig. 43], as well as the following in yet more snowmelt flushes: *Euphrasia exserta* [fig. 44], which like most Andeans of the genus is a subshrublet, the most concise form by far we have ever seen of *Ranunculus peduncularis*, this one the variety *erodiifolius* [fig. 45], and pink *Ourisia alpina* [fig. 46], which nobody in their right mind would kick out of their alpine house!

What an unforgettable couple of Patagonian days!

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fig.41: F. & W.10704 *Olsynium frigidum*. Cajón de las Nevadas, Neuquén, Patagonia, Argentina. (8 Feb 2003. JMW)

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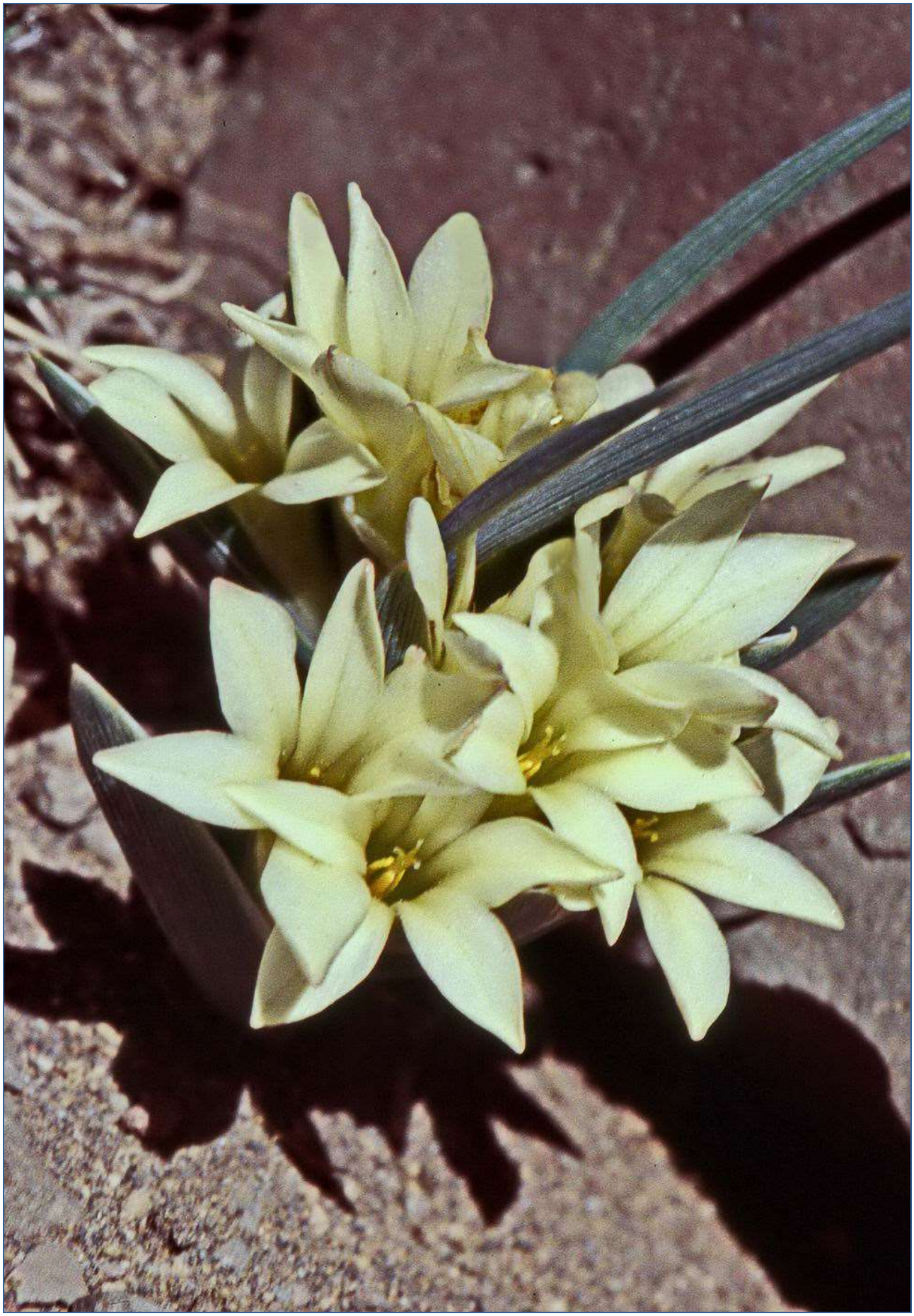

fig.42: Close up of F. & W.10704 *Olsynium frigidum*. Cajón de las Nevadas, Neuquén, Patagonia, Argentina. (8 Feb 2003. JMW)

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fig.43: F. & W.10709 *Tristagma nivale*. Cajón de los Nevados, Dpto. Minas, Neuquén Prov., Argentina. (8 Feb 2003. ARF)

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fig.44: *Euphrasia subexserta* capitalising on a snowmelt rivulet. Cajón de los Nevados, Dpto. Minas, Neuquén Province, Argentina. (8 Feb 2003. ARF)

fig.45: *Ranunculus peduncularis* var. *erodiifolius* in a most engaging dwarf form. Cajón de los Nevados, Dpto. Minas, Neuquén Province, Argentina. (8 Feb 2003. ARF)

fig.46a: F. & W.10707 *Ourisia alpina* (8 Feb 2003. ARF)

fig.46: Not an immigrant primula, but the equally dainty *Ourisia alpina* (F.& W.10707). Cajón de los Nevados, Dpto. Minas, Neuquén Province, Argentina. (8 Feb 2003. ARF)

fig.47: F.&W.10701 *Nassauvia lagascae* var. *lanata* forma *solitaria* (forma nov.) - named for the endearing cat Solito. Cerro Crestón, Neuquén, Patagonia. (7 Feb 2003. JMW)

fig.48: Anita with our overnight host - Solito the cat's adoptive father - and his horse. Looking SW from the mouth of Cajón de los Nevados. (8 Feb 2003. JMW)

fig.49: Anita fusses one of our four Patagonian feline friends, this one a bit further south, near Lago Aluminé. (6 Jan 2008. JMW)

Below: fig.50: Catz-R-Us. Not Solito (we took no pictures of him), but a nearby neighbour at our small Chos Malal hotel. (26 Nov 2009. ARF)

For some reason or other certain cats and ourselves seem to have a mutual affinity, which has led to a number of brief but memorable amicable encounters in southern Argentina. One feline friend insisted on comforting John in our tent when he was laid low down south by serious influenza for over a week on the Argentinian side of the Torres del Paine. Another commiserated with Anita [fig. 49] after she suffered a serious and potentially fatal fall from a horse and had to return to our host's farmhouse to recover while he and I continued exploring on our mounts. Every time we went to Tromén we used to stay at our base, the small Chos Malal hotel run by the late Carlos Zimmerman and his wife, Vilma. They became great friends as well. Vilma even accompanied us on a local field trip. During one of these periods Carlos was away fishing. But a new addition to the family made us equally welcome [50].

Solito's Tale - The Cat that Walked by Himself

The name of this chap is imprinted on our memory. We've forgotten that of his owner, our generous host, whom we refer to as 'Solito's dad'. That says something. The dad told us about him. During the long winter and early spring herds are kept in the milder lowlands below, migrating up to the high pastures in the latter stages of the snowmelt. Their herder drives them from behind on horseback, leading mules with all his tentage and other equipment needed to last out the summer. When Solito was scarcely more than a kitten, the man told us, he naturally thought to leave it in the care of a neighbour who lived permanently in the lower village. But Solito would have none of it. At the last minute he leapt up onto the saddle and rode behind all the way to the top! This he did every year and enjoyed his life in the wilds alone with his 'dad'. Alone. That was the source of his name, Solito, the exact translation in Spanish. But unlike Kipling's aloof, calculating Just So story animal, Solito was full of love and affection for people. On the second day we left, thinking we'd never see our two friends again. But by chance, as we were slowly collecting and photographing, the herdsman with his flock caught up with us [fig. 48]. He broke our hearts by telling us that when we left Solito had run after us, crying out pathetically, and had been miserable since. Nothing we could do; one of life's minor tragedies. But to immortalize that remarkable little cat we have decided to name the new yellow *Nassauvia* variant for him as forma *solitaria* (fig.37). This epithet also fits its distribution status as a lone population.

We can thoroughly recommend anyone with the inclination, time and funds (and suitable motorized or equestrian transport!) to visit this little known spot in early February.

fig.51: On the way out late we followed the Río Barrancas, here braided and beneath a spectacular sunset. Neuquén, Argentina. (8 Feb 2003. JMW)

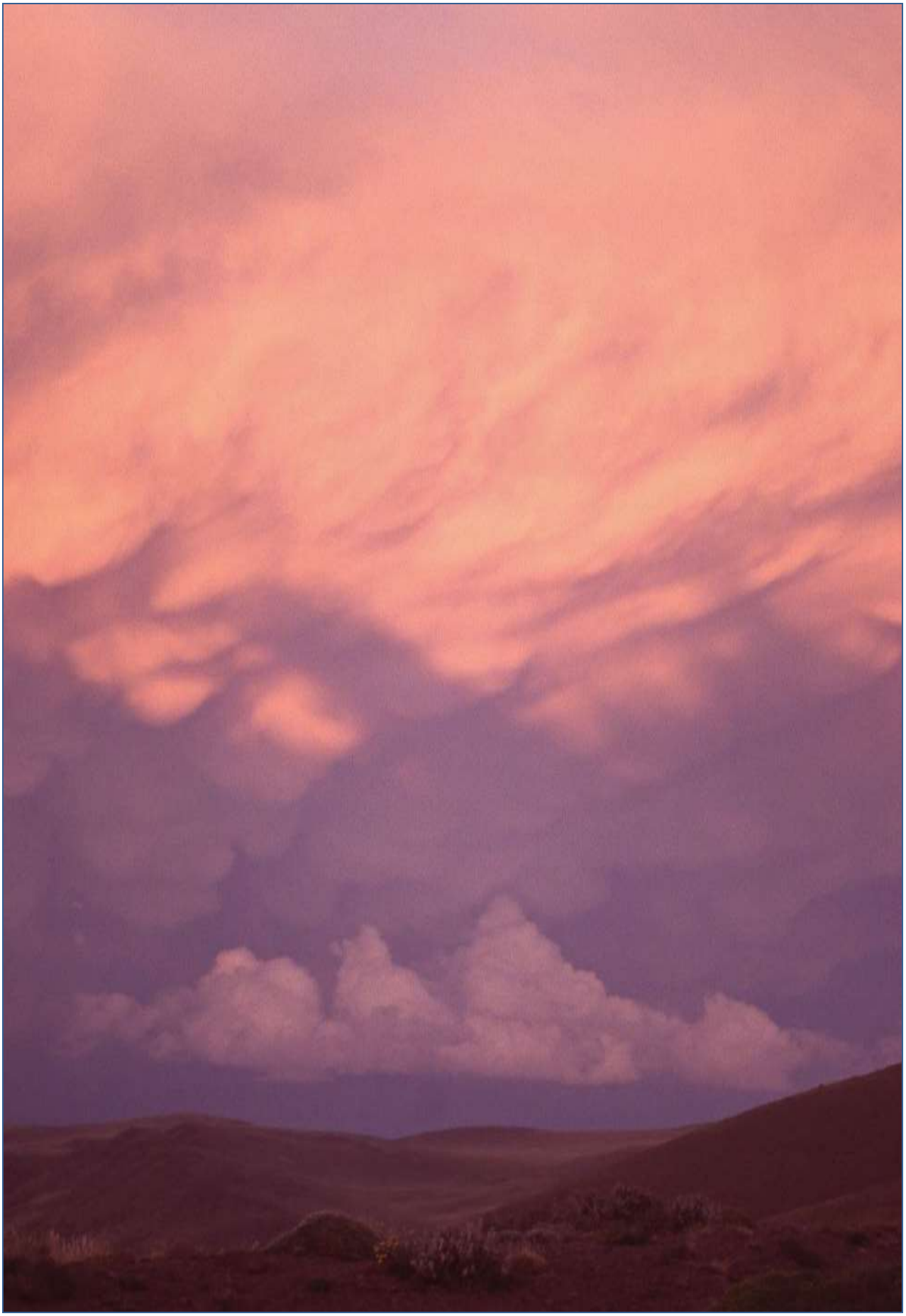

fig.52: And here is that sunset, singularly dramatic even by Andean standards. Northern Neuquén Province, Argentenian Patagonia. (8 Feb 2003. JMW)

fig.53: *Viola trochlearis*, the last of the *V. rugosa* related trio we discovered. Type site. Primeros Pinos, Departmento Picunches, Neuquén Province, Argentina. (21 Dec 2007. ARF)

***Viola trochlearis* J.M. Watson & A.R. Flores (ms), discovered in 2007**

The final new species of this alliance lies well outside the Tromén Park at over 200 km to the south of the fairly proximate cluster of the other pair, yet still well within Neuquén Province.

In fact, once you know where to look *V. trochlearis* [fig. 53] can be accessed with ease. Primeros Pinos, its type site, is situated exactly halfway along the east-west road, the National Route 13, between the town of Zapala and Villa Pehuenia, a resort beside the Aluminé lake in the Andes at the frontier with Chile. It's impossible to miss the locality, which translates as 'First Pines'. 'Pines' means araucarias in this case. They stand out like an ink blob on a pristine white sheet of paper [fig. 59]. 'First' signifies that this isolated and scattered little wood of them is their most westerly habitat away from the Andes before the treeless pampas plains which stretch away to the Atlantic. In other words they are the first to be seen on the way from the east.

Viola trochlearis can be found no more than a stone's throw from the south side of the road. Like *V. rubromarginata*, it has been visited by a number of interested tour parties and individuals since, and both species are illustrated, named and described in 'Flowers of the Patagonian Mountains' by Martin Sheader and his coauthors. Until we abandoned our regular seed transactions in 2009 we listed them occasionally, and this led to a slightly complicated situation. Early on we began looking for a suitable epithet for what will now be *V. rubromarginata*. We wanted it to describe the appearance of the rosettes, but it had to be one not employed for any previously published *Viola* species. As is our usual custom, we ran through the alphabetical index in Stearn's 'Botanical Latin' and eventually reached 'trochlearis: shaped like a pulley-wheel', defined in greater detail on an earlier page, '(Pulley-shaped): circular,

compressed, contracted in the middle of the circumference to resemble a pulley.' Perfect! It would be impossible to improve on that as a description of the rosettes [fig. 3]. This left us with a bit of a dilemma when it came to finding a suitable name for the identically formed Primeros Pinos viola. But before we could settle on one, images began to appear on the Internet of the latter as *Viola trochlearis*. Somehow confusion had arisen. So rather than cause further befuddling we decided to leave it at that and find a new name for the Tromén species. Its diagnostic red-margined leaves provided the perfect solution.

Above left: fig.54: F.&W.10638 *Alstroemeria pseudospathulata* W of Chos Malal, Neuquén. Ravenna published these Argentinian plants as *A. lacrima-solis*. (24 Dec 2002. ARF)
Above right: fig.55: F.& W.11588 A different form of *A. pseudospathulata* beside the road from Zapala to Primeros Pinos, Neuquén, Argentinian Patagonia. (10 Jan 2008. JMW)

The botanical fun quickly begins near the start of the journey to *Viola trochlearis*, on the open northern Patagonian steppe after Zapala, well before reaching Primeros Pinos.

Splashes of bright yellow by the roadside drew us to a screeching halt for one memorable stop. It was *Alstroemeria pseudospathulata* [figs. 54, 55], also at the easterly limit of its range. This species was originally given the illegitimate name of *A. crocea* by Philippi for his type site collection in Chile [fig. 56]. Our friend and colleague, the *Alstroemeria* authority Ehrentraud ('Traudl') Bayer from Munich, gave it the new name above. A yellow species had also been collected in adjacent Argentina, first by Otto Buchtien, then later by Harold Comber and others. It remained unidentified until Ravenna published it in the Flora Patagonica volume of 1969 as *A. spathulata*; a gross misidentification given that species only has pink or white flowers and differs in other respects. As Ravenna's interest in the genus and knowledge of it increased, he recognised his error and in 1988 published it as *A. lacrima-solis*. It was not accepted as different from *A. pseudospathulata* by others, but when we found it for the first time west of Chos Malal we observed certain differences between the two and considered they were sufficient for the Argentinian populations to be redesignated as a steppe ecotype subspecies of Andean *A. pseudospathulata*:- i.e. subsp. *lacrima-solis*. This new roadside population, however, changed our minds. As can be seen, it is not only variable there, but some of its forms are exactly like those of the type in the Chilean mountains. So the attractive epithet *lacrima-solis* ("tear of the sun") is lost, but we like it so much we hope to use it on some other new yellow-flowered plant, no matter what its genus.

fig.56: An F. & W. *Alstroemeria pseudopathulata* from Alto Vilches, Maule Region in Chile. Identical with Argentinian forms - so *A. lacrima-solis* is merely a synonym. (undated, but pre 1997. JMW).

Another stunning pre-Primeros Pinos surprise awaited us, and it was Anita who spotted it in the distance as we drove by at speed. *Anarthrophyllum* from the temperate Andes and Patagonia is a genus of neat cushion shrublets with red, yellow, orange and bicoloured stemless pea-flowers, and has become very well-known due to the usual outstanding bright red form of *A. desideratum*. This is often seen by mountain plant tour folks, especially in the Torres del Paine of extreme southern Chile. But the species we owe to Anita's sharp vision, *Anarthrophyllum elegans* [figs. 57, 58], can certainly hold a candle to it.

fig.57: Sunshine and showers. A 'distant red' prize for Anita's sharp eyes as we drove quickly along; just short of Primeros Pinos. The superb *Anarthrophyllum elegans* (29 Nov 2009. JMW)

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fig.58: F.&W.11890 *Anarthrophyllum elegans* on the Primeros Pinos steppe. A spectacular close-up. It yields nothing to more famous southern *A. desideratum*. Neuquén, Argentina. (29 Nov 2009. ARF)

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And so we reach Primeros Pinos. As is so often the case**,** our discovery there was down to chance. It was not a planned stop, we were on the way to something else (see below). We couldn't resist the welcome shade of the araucarias for our latish meal [fig. 61], and were so enamoured with the place we decided to camp there for the night. Thus we met one family of its small handful of inhabitants, asked them about our intended destination, and were shown *Viola trochlearis* in the backyard just behind their house [figs. 65, 67 - note the improvised 'rockery'!]. They were amused when we told them that having those funny little plants in their plot would make them the envy of the entire rock gardening community of the Northern Hemisphere! The only other plant of note in the immediate vicinity was *Oxalis adenophylla* [figs. 66, 67], which unsurprisingly appealed to the family rather more.

fig.59: Primeros Pinos, marked by its araucarias, at a later visit during very unsettled weather. Neuquén Province, Argentinian Patagonia. (10 Jan 2008. JMW)

fig.60: The eponymous 'pines' (*Araucaria araucana*) of Primeros Pinos. Neuquén, Argentina. (21 Dec 2007. JMW)

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Above left: fig.61: What better place to lunch than under one of the Primero Pinos lichen-bearded pines? (21 Dec 2007. JMW)
Above right: fig.62: Hang on, that looks like somebody staring out at us from the lichened bark as we eat our meal. We wonder who it could be. (21 Dec 2007. JMW)

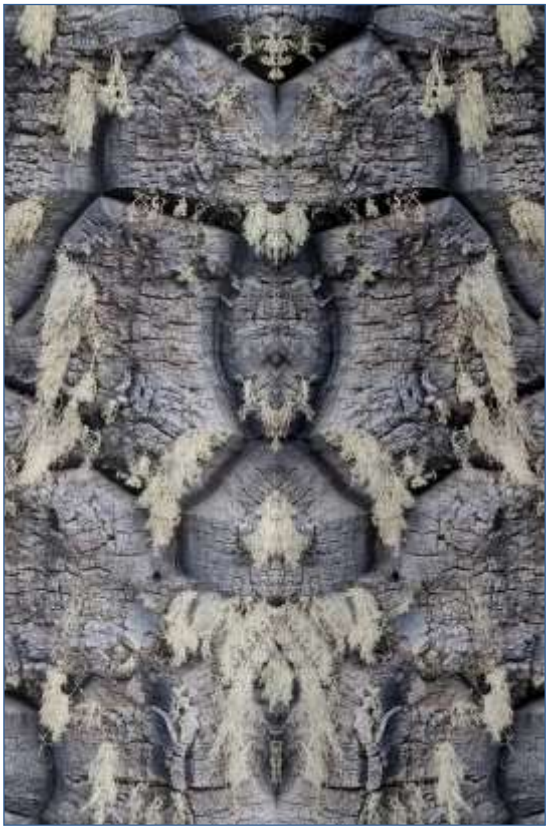

fig.63: Well, it's surely a Lonko (Indian chief) god of the Mapuche people. He promises to guide us to the viola if we respect their environment. (21 Dec 2007. JMW)
fig.64: Looking down from the *Viola trochlearis* type habitat at scattered Primeros Pinos monkey-puzzles on slopes of rocky steppe. Neuquén, Argentina. (22 Dec 2007. JMW)

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fig.65: Anita snapping *Viola trochlearis* (marked with sticks, and circled) behind one of very few local dwellings. Note *Oxalis adenophylla*, foreground. (22 Dec 2007. JMW)

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fig.66: The setting, part of the *Viola trochlearis* type site. Anita, the daughters of the local family and our jeep. Eat your hearts out. Not everyone has rosulates in the backyard. (22 Dec 2007. JMW)

fig.67: F.& W. species nova *Oxalis adenophylla*. We've seen far finer specimens elsewhere, but this is the actual one growing together with the new viola at Primeros Pinos. (22 Dec 2007. ARF)

fig.68: Bunchgrass steppe on volcanic sand, the other habitat of *Viola trochlearis*, at the beginning of the vehicle track to Cerro Atravesada, west of Primeros Pinos. (22 Dec 2007. JMW)

fig.69: A nice dollop of manure for *Viola trochlearis* at its bunchgrass second site! An invading dandelion is arrowed, but unfortunately not slain.
(22 Dec 2007. JMW)

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CITES listing of the Monkey Puzzle, the name tree and focal point of Primeros Pinos, is an absurd piece of cry-wolfery, and discredits serious organizations which actually ignore thousands of genuinely endangered rare plants. *Araucaria araucana* [figs. 59-64] stretches for at least 300 km longitudinally, and inhabits the southern coastal mountains of Bío Bío Region here and there, as well as large sectors of the main Andes both in Chile and Argentina. Some of the many extensive woodlands contain thousands of its trees, as popular TV series on dinosaurs constantly demonstrate. Apart from natural hazards - lightning strikes and volcanic eruptions, which it has survived for millions of years - it is only threatened very locally in its densest formations by occasional wildfires caused by careless people. There is no exploitation of its timber, the only permissible intervention being traditional gathering of the nut-like edible seeds by the local Mapuche peoples. Now let's see. Would even that be possible, let alone sanctioned, for a species at serious risk of extinction? Ah, but now they say climate change could be affecting the whole species adversely. What will CITES do about that, we wonder?

We consulted with our new friends at Primeros Pinos about the accessibility of the nearby height which held the reason for our being there. It was where, in 1925, Harold Comber found what Becker later named as var. *minor* of *Viola coronifera*. In fact that was actually during the season before Comber collected *V. coronifera* itself **-** in 1926, his annus mirabilis for Patagonian violas, when he discovered no fewer than six new additions to section *Andinium*. The variety *minor*, smaller in all its parts, is now considered to be no more than a synonym of the main species. More to the point still, the latitude of Primeros Pinos is well to the north of the type site of *V. coronifera*, Cerro Colohuincul. Nobody had found it anywhere else meanwhile. To our disappointment, they told us there was no vehicle access, so it would take at least a day on horseback to reach and another to explore, provided we could find horses and a guide for hire, everyone being on holiday at the time. That was not practical for us then, even if possible. But they suggested we might try another little vehicle track just up the road, which did lead to a different, but more or less comparable mountain ridge.

fig.70: The second site. The exquisitely perfumed *Jaborosa volkmannii* (F.& W.11546), first brought to our attention by Comber in Clay's 'The Present-day Rock Garden'. (22 Dec 2007. JMW)

After packing up, we drove off a short way past the last of the araucarias and entered the track, which on its way to the uplands passed through an extensive level of loose volcanic sand vegetated by quite regularly spaced clumps of bunch grass [figs. 68, 69]. A yellow flower drew our attention. We stopped. It was a dandelion [e.g. fig. 69], would you believe, which we had to thank for leading us to a second population of *V. trochlearis* scattered about in the sandy clearings. Clearly and fortunately, the species is much less liable to disturbance here than at Primeros Pinos. As a really perfect bonus, while wandering around assessing its numbers and local distribution, we also came upon *Jaborosa volckmannii* [fig. 70] ('Beware the Jabberose, my son!' - *pace* Lewis Carroll). This exciting solanaceous species has a sweet, penetrating fragrance similar to the jasmine its white flowers resemble. These are stemless and long-tubed, but the buds are initiated below ground and the tube pushes up through the soil to open up at ground level in the heart of the rosette of jaggedy, rusty green foliage. In consequence, the fruits are actually produced subterraneously. An unwary seed collector might suppose the plant to be sterile, not knowing to dig down for precious treasure to offer clients! Presumably the seeds are protected from predators (including plant hunters) by this adaptation and wash up and out during heavy winter rains.

fig.71: A later visit there. Definitely a case of the higher; the colder. We were heading west towards our last planned sortie of the day. Alas, the area was snowed up and bitterly windy. (28 Nov 2009. ARF)

fig.72: Having a lovely holiday. Wish you were here! On second thoughts, give it up for today - try again tomorrow.
(28 Nov 2009. ARF)

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Above left: fig.73: Returning next day. There goes the hail, shooting past in an icy blast. And there's more where that came from, as the Goons famously used to put it. (29 Nov 2009. JMW)
Above right: fig.74: But we were determined to make a return visit to our *Viola coronifera* site despite the wintry conditions, as Anita's garb here indicates! (29 Nov 2009. JMW)

We never did get to find that reduced form of *V. coronifera*, but the story has a happy ending nonetheless. Driving on towards the Aluminé lake sector, we crossed a low rise where the mountain ridge reaches its lowest point, and stopped for a look around. Near the road we found what were undoubtedly *V. coronifera* rosettes, but past flowering. Two years later we returned slightly earlier in the season, battered much of the time by extremely inhospitable wintry weather conditions [figs. 71-74], but rewarded for our persistence by the triumphant sight of *V. coronifera* in flower [75, 76]. There are only the slightest of unimportant differences between it and the type site population [fig. 77] almost 200 km to the south. We were told later that an Argentinian botanist had also found it on the same ridge on the other side of the road. (Incidentally, fig 72 is definitely not a 'selfie'!)

fig.75: Poor little blighter. It's suffering as much as we were. But at least we could go back to a warm hotel room for the night! (29 Nov 2009. JMW)

fig.76: Ah, relief! Just what we'd hoped for. Confirmation of a well distant new site for exquisite *Viola coronifera* (F.& W. 11860). W of Primeros Pinos. (29 Nov 2009. JMW)

fig.77: For comparison. F.& W.8431 *Viola coronifera* at Comber's type site, Cerro Colohuincul, S Neuquén Province, Argentinian Patagonia. (17 Dec 1994. JMW)

There's much more to say yet about the flora of this fascinating area, but at a later date, not here and now.

Taxonomic appendix

Nassauvia lagascae* (D. Don) F. Meigen var. *lanata* (Phil.) Skottsb. fma *solitaria*, J.M. Watson & A.R. Flores, *forma nova

Type:- ARGENTINA. Provincia de Neuquén, Departmento Minas, Sierra Cochicó, shortly west of Cerro Crestón, 36º18'S 70º29'W, 2450 m, 7 Feb 2003, leg. J.M. Watson & A.R. Flores, F.& W. 1071 (holotype CONC!, isotype herb. Flores & Watson!)

Diagnosis:- Consists of a discrete self-contained population apart from nearby *N. lagascae* var. *lagascae*, and is distinguished from that taxon and its other varieties by the clear pale yellow florets. [figs. 36, 47]

Field note: A scattered population in a mountain valley on rocks and in wiry bunch grass as an element of a dwarf upland steppe community.

Distribution: Only known from the type site at the extreme northern end of Neuquén Province, Argentina.

Phenology: Flowering in January and February.

Etymology: *solitaria* refers to a friendly cat called Solito belonging to our host at the type site. The population of the new form is also unique.

Considered conservation classification: Although the only known colony is within a protected reserve and very inaccessible, its single site status and limited numbers indicate it should at least be qualified by IUCN standards as vulnerable (VU).

fig.78: So that was our pot of gold, and here's the rainbow it was at the end of. A gentler, more promising return past Primeros Pinos - once upon a time. (9 Jan 2008. JMW)