

British Cactus & Succulent Society

Southampton & District Branch Newsletter

March 2017



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Editorial	1
Announcements	1
Last Month's Meeting.....	1
Table Show Results	6
Next Month's Meeting	6
Forthcoming Events	6

Editorial

The weather has warmed up a little bit, although the dangers of overnight frost have not gone away. I did risk giving some of my succulent plants a light watering when we had a warm spell in the middle of February – some of the plants like Haworthias and Echeverias looked like they needed a drink and Terry Smale always advises giving conophytums some water in the winter.

Announcements

If you haven't already done so – please renew your **BCSS membership** – this can be done using the form included with the CactusWorld Journals which were sent out to members just before Christmas - or you can also renew from the BCSS website, at: <http://society.bcsc.org.uk/index.php/subscriptions.html>

Last Month's Meeting

Peru - Arequipa to Ancash

Martin Shearer mentioned that his talk was about a trip to Peru in April 2016, and this was the second time that he and his wife Anna-Liisa had been to Peru. This trip was organised by the Alpine Garden Society and they were in a party of about 20 people, along with a local botanist. During their first trip, they didn't go up very many mountains, but this time they did. The main aim had been to look at some of the plants growing at higher altitudes. Peru sits between the tropic of Capricorn and the equator. They visited three sites – after flying into Lima, they flew onto Arequipa. After acclimatising to the altitude, they went on to Cusco and then finally went from Lima to Ancash, using the Pan American Highway. There are two rows of mountains in that final region – the Cordillera Negra to the west and

the Cordillera Blanca to the east and they also visited the valley in between.

We started with a view of Arequipa which Martin had found on the Internet, showing part of the town in the foreground and the volcano El Misti in the background. Arequipa is at 2328m and El Misti is 5822m high. It's still active and may end up destroying part of the city one day. They started by visiting some low altitude places to the east of Arequipa. We saw the terraces cut into the hills. Some of these and the associated water courses are pre-Inca. At Sogay (2630-2650m) they stopped at an old water mill. It takes ages to get out of Arequipa due to the traffic. We saw an introduced plant (*Euphorbia ingens*) and also *Echinopsis pachanoi*. They visited the Sabandia water mill, which has been rebuilt and is now owned by a family, and who happened to have a collection of succulents in pots, sitting outside all year round.

There were a few cacti around Sogay - *Weberbauerocereus weberbaueri* grows quite large and forms big and spectacular plants. *Lantana scabiosiflora* has bright yellow flowers. *Heliotropium arborescens* has scented lilac flowers and forms plants a metre and a half tall – masses of hummingbirds were feeding on them. Martin took pictures of these birds flexing their proboscis to get into the nectar in the flowers. In this area you have to be careful of as you walk since there are a few *Opuntias* growing here and their pads do detach and lie on the ground. We saw *Cumulopuntia unguispina*. There weren't many cactus in flower – it was the wrong time of the year for that however *Corryocactus aureus* was in bloom and had yellow flowers. The flowers are nice but the plant is best left in habitat. We also saw *Corryocactus brevistylus*. Most of the area here is devoted to agriculture, but the difficulty of farming the rocky slopes means that some areas are left to the local plants. There were also some Puyas here. We saw *Corryocactus brevistylus* in fruit – he tried eating the fruit and he described eating the pulp was like eating “sweet mucus”. Growing with them were some spiny shrubs - *Tecoma fulva* v. *arequipensis* has trumpet shaped hanging red flowers - these are pollinated by hummingbirds.

The other cactus which dominates this area is the spiny *Austrocylindropuntia subulata*. Subspecies *exaltata* has red flowers. Some locals plant these cacti on their walls for protection against intruders. Plants of *Equisetum giganteum* (horsetail) were 2-5 metres tall – the plant forms large rhizomes. We saw local farmers growing rice and flooding the rice field. The surrounding countryside is quite dry. *Echinopsis pachanoi* grows here and it is still used ritualistically and called the San Pedro cactus. The following day they went south east of Arequipa to Puquina which is at 3700m. It was very dry and cactus and spiny shrubs dominate the area. *Armatocereus riomajensis* forms big thickets and other plants grow through them. The stems fall over and re-root and these plants are important for the native insects, birds and mammals. The segments are quite large, and he wasn't sure if that was the annual growth or each segment forms over a number of years. Growing in them was a shrub with red berries, *Schinus molle*. *Schinus* is sold in our supermarkets as a pink pepper. Growing here was a member of the potato family, *Lycianthes lycioides*, which has beautiful blue flowers. It would probably do well in this country in a garden or conservatory. And then a stinging plant from the Loasaceae, *Caiophora cirsiifolia*. These can climb to a couple of metres. *Chuquiraga rotundifolia* is a Compositae which grows all the way down South America – this species has attractive orange-red flowers. Next were a couple of succulents - *Portulaca perennis* and *Portulaca pilosa*.

There were lots of Lupins here too. An *Opuntia* was *Cumulopuntia mistiensis* or might have been a form of *C. sphaerica*. They also found black widow spiders here. *Mastigostyla hoppii* is a member of the iris family and forms nice little plants with one leaf and with beautifully marked one inch flowers. *Oziroë acaulis* is a member of the onion family. *Cumulopuntia boliviana dactiflora* is one of the spineless forms. They headed further south and came across impressive plants of *Browningia candelaris*, with spiny stems. These bore some fruit.

They headed higher into mountains, going to Cabanaconde via Patahuasi and spending a few days at 4000-5000m. They saw a few mammals - 4 camel species are encountered here. Vicunas are found at higher altitudes and the domesticated version of these are the Alpacas. Lower down, Guanacos were domesticated to Llamas. Comparing between Alpacas, and Llamas, the latter have longer heads and bigger ears. Although classified in different families all four will interbreed in captivity. He also took a picture of an upside down rainbow - this can form when there are ice crystals in the sky and it's called a circumzenithal arc. *Cumulopuntia boliviana*

ssp. ignescens is a spiny form and it has gingery red spines. It can form quite big clumps. Higher up, in the bogs and high rocky scree slopes, they found *Gentianella luteomarginata* and *Gentiana sedifolia* with its light blue flowers. *Distichia muscoides* is a type of rush with succulent leaves.

In the wet areas you get a fantastic array of plants. Gentianellas, which are the South American gentians. *Gentiana sedifolia* is the same size as crocus, and it occurs from Peru to Tierra del Fuego and can have white or blue flowers. They also found a new species of *Gentianella*. We saw a lizard and also *Gentianella hirculus*. *Azorella compacta* forms mounds of "cushion" plants, some clumps are metres across, and thought to be hundreds of years old, and only grow a few mm per year. Also here is another cushion plant, *Pycnophyllum molle*, which is in the dianthus/carnation family. Another cushion growing here is *Mniodes coarctata* from the daisy family.

Echinopsis maximilliana was growing at 4500m – the temperatures get well below 0°C at night so they must be cold tolerant. The other big group of plants found here are the *Nototriches* which are in the Malvaceae family, and the flowers have some resemblance to Hibiscus. *Nototriche argentea* was 4" across. They are incredibly varied and you can sometimes find 6-7 species on the same mountain. They also found *Nototriche anthemidifolia*, *N. pedicularifolia*, *N. minifolia*, and *N. digitifolia* with soft hairy leaves and blue pollen. One species had larger flowers, 2" across with red edges to the petals. *N. salina* had brown flowers. Growing with them was *Tunila soehrensii* with flattened stems, and this was fairly common in the area. They also saw *Puya weberbaueri*.

In their previous visits to Peru (in 2014 and 2016, they went in April in both years) they visited the Colca Canyon, which is twice the depth of the Grand Canyon. If you get there early in the morning, as the air begins to warm, you can see condors flying and quite a crowd gathers to watch them. *Puya weberbaueri* was growing on the mountain sides. Tumbas de Choquetico are 1200 year old rock tombs along with some cave art. At the end of the canyon they saw big stands of *Echinopsis cuzcoensis*, with fruits on the plants. Tillandsias were growing on them, so there must be a good amount of moisture in the air. They saw a family of Quechua Indians collecting fruit from the Corryocacti. There were more *Tunila* growing in the rocks, and some were in fruit. They also saw *Echinopsis pampana* and *Cumulopuntia crassicylindrica*, the latter growing along crevices in the rock. They visited a site to the east, to look for

alpines (Tisco 4430m). There were not many cacti here, but they saw some *Echinopsis schoenii* (now lumped into *E. cuzcoensis*).

They visited a new site, near a high pass to the north of the canyon. They paused for a “pee-stop” and it’s amazing how often you find unusual things at places. They found a new *Gentianella* which had flowers like little red/yellow hot air balloons, and given the shape, he wasn’t sure how it’s pollinated. The area must be moist at some time. In total they found 3 new species on this trip, due to making unexpected stops. They also saw *Acaulimalva* and more *Nototriches* on the high pass, including *N. argentea* and *N. sulphurea* which has blue flowers and is named due to its yellowish leaves. *Nototriche digitulifolia* was growing in a cushion plant - the cushion plants can sometimes act as a nursery for other plants. A nice Lupin 1 foot high was *Lupinus cuzcensis*. He collected seed of this, but found later that this had been damaged by weevils.

They visited a remote village Tassa (3742m) and we saw some of the locals in their colourful garb. The only *Oreocereus* they saw was growing in a tin can on the side of a house. They went up a local canyon (Punku Canyon) and this is a good site for *Neowerdermannia chilensis* ssp. *peruviana*. The locals call it “towana” and use it as a vegetable and medicinal product. It is eaten when the potato crop fails. It used to be found more extensive previously. It has a large swollen root and in the dry season the plants pull themselves down into the ground. They also found *Echinopsis pampana* in the canyon.

They went on to Puna but did not visit Lake Titicaca. On higher ground they found huge mounds of *Cumulopuntia boliviana* ssp. *ignescens* and also cushions of *Punotia lagopus* with tiny yellow flowers - these must be incredibly old. Also here was *Austrocylindrifolia floccosa* - these are supposed to be the yellow flowered version - later in the trip they encountered the red flowered ones. They went on to Cusco which is a fantastic city. It is modelled as an old Spanish colonial town and is the starting place for visits to Machu Picchu. They visited the local museum where they seemed to be the only people there, and where there were displays of pre-Inca art (Moche pottery) some of which featured cactus shapes. They drove north to Ollantaytambo which is a town at the start of the Inca trail. Nearby, the cliffs are covered in cacti and *Puya* and *Tillandsias*. We saw examples of the latter, including *Tillandsia usneoides*. Cacti found here included *Corryocactus erectus* and *Echinopsis cuzcoensis*. *Tillandsias* were also growing on the power cables, and we saw *Tillandsia recurvata*.

They visited some nearby sites in the sacred valley, including Maras. Here, saltwater springs are drained into ponds and evaporation is used to prepare salt and these are in production today. There were a lot of interesting plants around this area. *Hesperoxiphion herrerae* and *Hesperoxiphion peruvianum* are related to the Iris family. A species of orchid was from the genus *Altensteina* and they also found a passion flower *Passiflora gracilens*, the plants were a metre high and scrambling through other plants. Also found here was *Corryocactus squarrosus*. They went to a couple of high passes. At 4500m, in the early morning there was cloud on the hills. One rocky outcrop had interesting plants but the others were barren. They found *Nototriche aristata* with pink flowers - this was the type locality for this species. *Oreithales integrifolia* is a type of buttercup - these had white flowers with hairy petals and hairy leaves, but there were yellow flowered plants too. They went down to catch a bus but the land along here had been grazed by Alpacas and so there wasn’t much growing there.

They saw a typical house you find in this area, with a thatched roof and no windows. Most of the people have now moved out of these and live in proper stone built houses. A series on TV from a couple of years ago by Kate Humble about shepherdeses was filmed here, where she covered Alpaca shepherdeses. It was Easter time so some of the children were on holiday from school and were tending the Alpaca herds. They were all very friendly, and very nice people. A couple of children were looking after their Alpaca flock which need guarding from Pumas and Foxes. A girl had found a young Andean goose and had adopted him as a pet. The fields were planted with potato. *Solanum acaule* - a wild potato - has nice flowers and is frost hardy. Over two and half thousand different species of potato have been grown by the Quecha Indians. A picture of selected types showed that they are much in size, shape and colour more varied than the potatoes we see in our supermarkets!

We saw the local church, and growing round the church was another stinging plant from the Loasaceae - this was a couple of feet high and had beautiful flowers. In this area, the menfolk also wore a hat and we saw women in traditional dress. *Puyas* were growing in sidewall. Children enjoyed their pictures being taken, a couple were wearing a Spanish football jersey and a Spiderman top. The next pass was at Abra Malaga which is a paved road up to 4070m, just to the north of Ollantaytambo and the start of the Inca trail. It is very wet. They reached a wet hilly area and knew there would be no cacti there. They saw *Puya longistyla* and also *Halenia umbellata* which is another gentian. They

found another new species of gentianella with striped flowers which don't open fully – this will be described later this year. *Gentianella ruizii* had lilac flowers and was growing in the woodlands. Five minutes after going over the top of the hill, you enter a cloud forest which is very wet.

They flew back to Lima and then drove to Ancash on the Pan American highway, which goes along the coast. It's a desert area but water comes down the mountains in streams and the areas are fertile. The sea is very rich too. There are lots of seabirds such as pelicans. The national dish of Peru is chicken (apparently July 3rd is Chicken Day) and they also eat Alpaca meat. Chickens are farmed in battery houses along the edge of desert. If you look at produce in your supermarket, a lot of the asparagus we eat comes from here. We saw sugar cane being harvested and also red and black corn being dried in the fields. The Pativilca valley and Sante valley are between the ranges of black and white mountains. The black mountains are described as such because they have less rain and there's no snow on the tops. There's a demarcation between the wet fertile areas and the dry areas. In the valley tropical fruit and bananas are grown, but the mountain sides are bone dry.

They saw stems of tall thin cacti swaying in the breeze – these were *Armatocereus procerus*. As you move up the valley the cacti change. They found *Haageocereus pseudomelanostele* and *Melocactus peruvianus*. As you get further up, other species show up - *Haageocereus acanthus* grows at higher altitudes. They continued all the way up the valley. Presidential elections were being held, so they saw people from the villages coming to the towns to vote, dressed up in their best clothes. They went to a site in the Cordillera Negra – the dry mountains – towards the Pueblo Libre region. The roads were narrow and winding. There was acacia scrub at 2500m and the cacti were growing here amongst the endemic acacia species. *Armatocereus mataranus* ssp. *ancashensis* has bluish segments. These were big solid plants but there weren't many flowers. They saw *Melocactus peruvianus* - some were in flower and with fruit. *Espostoa melanostele* ssp. *nana* was about a metre high – these were quite smart plants growing in big clumps. A cephalium develops on the mature plants. Overall they looked fresh and in good growth. There were lots of Tillandsias on the acacias. Growing with them was *Cleistocactus sulcifer*, although recent DNA analysis says this is a *Loxanthocereus* (*L. granditessellatus*) – it was nice to see these, they hadn't expected to find them. With *Matucana haynei* ssp. *herzogiana*, they found one plant in flower.

They found more Matucanas further up the mountain. David said these can flower at any time of the year, since they respond to watering and flower soon afterwards. They were in the Pueblo Libre district and went up a good paved road. They came across big alpines - *Puya raimondii* - these flower before the rains and had already flowered. These are big bromeliads which can grow to 10m and can take 30 to 100 years to reach flowering size. They are pollinated by hummingbirds, and in some areas by bats or insects. Growing with them, at the top of the pass (4000m) were *Verbena weberbaueri*. And *Austrocylindropuntia floccosa*, supposedly with red flowers. They were there early in the morning and the plants were soaking wet, covered in lots of moisture, due to condensation from the mists and clouds. In the dry mountains this is how the plants collect water. They found *Oroya borchersii*, the plants were again soaking wet. There were dead grasshoppers stuck onto the spines. The Puyas can be lethal – his foot slipped once and he grabbed onto a nearby puya plant and there was blood everywhere – and it took ages to get the spines out.

Growing in rocky outcrops at the top was *Matucana haynei* ssp. *perplexa*. Graham Charles says this was the type locality for *Matucana blankii* which is apparently the new name. None were in flower. Growing with it was *Oxalis pachyrrhiza* with fleshy leaves. They also saw *Calceolaria weberbaueriana*. *Werneria nubigena* was intriguing with large buds which opened into 3" flowers. They like damp in the soil. They also found a little *Olsynium* (Iris family) – this is found all the way to Patagonia. Plants of *Calceolaria scapiflora* are about 4-5 inches high – it's amazing how you get so much variation in this genus with just one design of flower. They also found a rosulate viola, *V. micranthella* – there had been no good photos of this published previously. It was a tiny little thing, beautiful in close up. The compositae *Paranephelius uniflorus* has yellow flowers which are 3 inches across. Another yellow flowered plant which was quite spectacular was *Gentianella brunneotincta*. *Verbena pogostoma* has a bluey-purple flower. They also found *Peperomia microphylla* and *Oenothera multicaulis*, which is an evening primrose. On way back down, the clouds had dispersed and you could see some of villages on the other sides of the valley – the fields on the mountain sides were at really steep angles and you wonder how safe they are to farm.

On the Cordillera Blanca, on the road to the Pastoruri glacier (Carretera a Pastoruri), there were no trees here, just bare mountainsides. They came across a stand of *Puya raimondii* and you could see how large they can get when they are in flower. Woodpeckers were feeding on insects in the stem.

Acaulimalva sulphurea is a relative of the *Nototriche* and has bright yellow flowers. On into the mountains they found *Gentianella lilacina* and *Werneria caespitosa* as well as a little groundsel *Senecio rhizocephalus* and *Gentiana sedifolia*, similar to the one found at Arequipa. They also found *Nototriche pinnata*. They came across a Compositae which was very similar to plants found in New Zealand - *Mnioides pulvinata* - which forms tight woolly rosettes. They found *Austrocylindropuntia* and this time *Nototriche obtusa* was growing in the middle of the cactus. Next they went to the Parque Nacional Huascarán which is in the Llanganuco valley. If you ever get a chance, do visit this, it offers spectacular views and is incredibly rich in plants and has a couple of nice lakes too. It is very steep sided and along the sides were lots of bromeliads and a wide range of plants. At the end of the valley a steep zig-zag road lead up to a high pass. They found *Polylepis sericea* which is member of the rose family and has reddish peeling bark. It's one of the few trees that can tolerate low temperatures and some can grow above tree line, at 5000m.

Growing down at the lake level is a member of the Proteaceae, *Oreocallis grandiflora* which is a large shrub the height of our meeting room and with huge flowers. They also found a passion flower, *Passiflora trifoliata*. There were more Calceolarias. They got to the end of the valley and began to climb - half way up was *Lupinus weberbaueri* which was 3½ feet tall - it's a beautiful Lupin with long hairy flower stems which should do well in our gardens, since it can tolerate cold and wet. With it is was *Stevia mcbridyii*(?) some of the plants from these genus are now used as artificial sweeteners, as they contain a compound which is much sweeter than sugar. *Austrocylindropuntia floccosa* v. *yanganucensis* is a hairless form and he wondered whether birds strip off all the hairs which is what happen to his outdoor plants of *floccosa*.

Growing with them were some quite exotic terrestrial orchids, 8 inches high. These included *Cyrtorchilum aureum*, and *Pterichis triloba*. They even a little crassulaceae - *Villadia reniformis*. At 4770m they found an alstroemeria relative *Bomareo dulcis* growing in the cliffs - the plants are 12-18 inches high, and have nodding flowers which are hummingbird pollinated. They would do well in cultivation. They found *Nototriche obtusa* again, with blue flowers. Climbing up the slope, he heard rocks falling behind him - you are always worried about this when in an earthquake zone - but it was actually just a white tailed deer, and he managed to capture a few pictures of it as it scampered away.

They headed for their final destination in Cordillera Blanca, a pre-Inca site Chavín de Huantar, where an Inca pyramid was excavated in the 1990s. The roads are bad, so very few people go there. At the pass, there was snow which had covered the cacti and plants there. Right at the top of pass was what was reputed to be highest tunnel in the world - the Tunel de Kahuish is a high mountain tunnel at an elevation of 4,516m. Not sure how safe it is go through a long tunnel in an earthquake prone area! Looking at the cliffs, they found *Polylepis racemosa* at 5000m. There were also red spikes of flowers on *Gentianella weberbaueri* - the spikes were a foot or more high. And down at the bottom of the cliff, there were big clumps of a pink *Gentianella formosissima*. *Austrocylindropuntia floccosa* was also found here. It was a fairly wet area. At the top of the pass they are developing this area and so were replanting *Polylepis* trees. This was their last day of the trip. Martin mentioned they are planning to visit Ecuador and Peru in 2018 and hope to spend some more time on the Cordillera Negra, which should be richer in cacti.

Vinay Shah

Table Show Results

There were 8 entries in the February table show, and just 1 entry for "Plants in Flower".

	Cacti – Echinocatus	Succulents – Echeveria
Open	(1) B Beckerleg Neoporteria laniceps	(1) B Beckerleg Dudleya brittonii
	(2) -	(2) I Biddlecombe Echeveria cuspidata
	(3) -	(3) B Turner Pachyphytum compactum cristate
Intermediate	(1) B Beckerleg Neoporteria sp.	(1) B Beckerleg Crassula alstonii
	(2) -	(2) I Biddlecombe Echeveria agavoides
	(3) -	(3) -

Cacti/Succulent in Flower
(1) B Beckerleg Aloe Haworthioides

Ivor Biddlecombe

Next Month's Meeting

Our next meeting will be held on April 4th and will feature a talk by our own member Ben Turner where he will describe his visit to the Huntington Garden and an Arboretum during his trip to California last year.

The April Table Show will consist of the **Rebutia** group (cacti) and the **Gasteria** group (succulents), along with "plant in flower". Please note that members can submit more than one entry in any of the classes, and that points will be earned for each placed entry.

The table show classes use the classifications from the *Guide to Shows 10th Edition* (contact me if you don't have a copy of this).

The Rebutia group include *Aylostera*, *Cintia*, *Cylindrorebutia*, *Digitorebutia*, *Mediolobivia*, *Neorebutia*, *Rebutia*, *Setirebutia*, *Spegazzinia*, *Sulcorebutia* and *Weingartia*.

The Gasteria group includes only *Gasteria*.

Forthcoming Events

Sat 11 th Mar	Isle of Wight	Slide Show – SW USA #1 - by Keith Grantham
Mon 13 th Mar	Southampton	Branch Committee Meeting
Sat 18 th Mar	Portsmouth	Cacti & Succulents - 5 short Videos - Tony Mace
Tue 4 th Apr	Southampton	The Huntington Desert Garden & LA County Arboretum - Ben Turner
Sat 8 th Apr	Isle of Wight	Ramblings in NE Mexico (Chris Davis)
Sat 15 th Apr	Portsmouth	Bring and Buy Auction
Tue 2 nd May	Southampton	Cultivation & Propagation Workshop, demonstrations and discussions
Sat 13 th May	Isle of Wight	What I Did Last Winter (Paul Klaassen)
Sat 13 th May	Southampton	Display / Plant Sales @ Sparsholt College (Countryside Day)
Sat 20 th May	Portsmouth	Succulents & Cacti with Altitude (Terry Smale)

Branch website: <http://www.southampton.bcsc.org.uk>

Facebook : <https://www.facebook.com/southamptonbcsc>