

SECOND SUMMER ANYONE?

Alstroemeria ligta subsp. *splendens*
& *Tropaeolum polyphyllum*



Calceolaria pennellii

We have been waiting eagerly for updates to the UK red list and finally one of our favourite places has been freed ; Chile. Not only is the flora wonderful , the landscapes sublime and the wine delicious, but it means we get a second summer. Considerably more of the dry land on Earth is in the northern hemisphere, but the south has some special places, perfect to bolt too when conditions become a bit grey and cold at home. It has some of the most diverse and colourful places to be found, including three of the five Mediterranean climate biodiversity hotspots; the Western Cape, S & SW Australia and central Chile.

My first recollections of the latter were a solitary week (following on from a trip to the Falkland Islands) spent in the amazing monkey puzzle forests and the Valdivian rain forests. From that day I yearned to return, and two months in Chile was the first big holiday Basak and I had, way back in 2007. Since then, we have been back fifteen times (or more) and enjoy every visit. The flowers are quite distinct, a product of Chile's isolation behind the soaring wall of the Andes, that hem the country in along its entire eastern frontier. The Atacama Desert to the north and windswept Patagonia to the south ensure there's little chance of new plants arriving from anywhere else. The result is a high level of endemism and some stunning plants.

Now, I'll be honest, some of it is a little

divisive, dependent somewhat on whether or not *Alstroemeria* have taken over your garden. Personally, I'm a fan, especially of the desert species that pop out everywhere after the rains. They are one of the few plants that can successfully deal with the many invasive European weeds. And weeds don't come much bigger than radiata pine. And yet, among the dark monoculture stands of these pines, one of Chile's finest orchids;

Chloraea crispa





Chloraea magellanica

Chloraea crispata thrives, filling pine stands with dozens of tall snow-white flowers. Chilean orchids are very different to those found elsewhere, typically tall and robust with large flowers, but only ever in green, white or yellow shades. There are no pink species an indication of the limited range of pollinators found in Chile.

Our absolute favourite is *Chloraea magellanica*, often called the porcelain orchid for its cracked glaze patterns. It looks wonderful with a snowy volcano or on the mountain landscapes of Patagonia behind. The photograph is from Torres del Paine, in the far south, and close to where this was photographed were the incredible *Calceolaria uniflora*, each flower with a wide, white bar across the burnished-amber flower. Amazing as it may sound, this white bar is to lure its pollinator to the flower; a bird called a least seedsnipe. As the bird pecks the bar its head touches the anthers and styles held at the top of the flower.

And this isn't the only interesting bit of bird pollination, the fiery red of *Embothrium coccineum* also attracts small birds to feed on the copious nectar. When I first saw white-crested



Embothrium coccineum

elaenias feeding on *Embothrium* their crowns were so caked in red pollen that I thought I had a new species of bird for Chile! The same thing happened with *Puya bertroniana*, a fabulous, if ferocious bromeliad that is common in many areas of southern Mediterranean Chile. The turquoise flowers are borne on complex inflorescences, that have developed special perches for birds to settle on and feed at leisure. So, when I saw a golden-crowned mockingbird for the first time, it was nothing of the sort, just a regular mockingbird with pollen on top. In fact, these showy plants attract all sorts of birds from juncos to parakeets. But they are not red? Why should they be? The common assumption that all red flowers are intended for bird pollination and that a flower must be red to attract birds has clearly not been explained to the avifauna of Chile. Birds have excellent colour vision, red helps attract them, but so too does lots of nectar and birds quickly learn which plants have this and are not bothered by their colour. Or at least, the colour we see, many birds see extra wavelengths so there may well be underlying colours (invisible to us) that draw them. Most of Chile's puyas are blue-



Calceolaria uniflora



Eriogyne curvispina



Puya bertroniana

Viola cotyledon



Puya coerulea

flowered and all are bird pollinated (admittedly two do have red stems). Regardless *Puya* are remarkable. They are invariably with other spiny delights, namely cacti, of which I am also a big fan. They can have beautiful flowers and come in all shapes and sizes. Forests of organ-pipe stems dominate some areas, others are golden-spined barrels. Some even grow high in the mountains amidst big bushy calceolarias or as spreading mats on bare cinder slopes, such as *Mahuenia poeppigii*, each spiny carpet studded with lemon flowers that tiny dark bees dive into.

The same cinder slopes have many Andean violets too and these are perhaps the alpine plant highlight (with lots more in neighbouring Argentina too). What is remarkable is how they manage to grow in such inhospitable terrain, their deep taproots finding enough moisture to sustain the exquisite rosettes of leaves above. It is only when you see the flowers of some that they even reveal themselves as violets. At Laguna de Maule one location has hundreds of *Viola cotyledon* growing near cinder slopes peppered with gorgeous *Oxalis adenophylla*. The alpine flora is rich and starts a bit earlier in the south, where the mountains are lower and the days longer. One year I had the pleasure



Mahuenia poeppigii



Oxalis enneaphylla

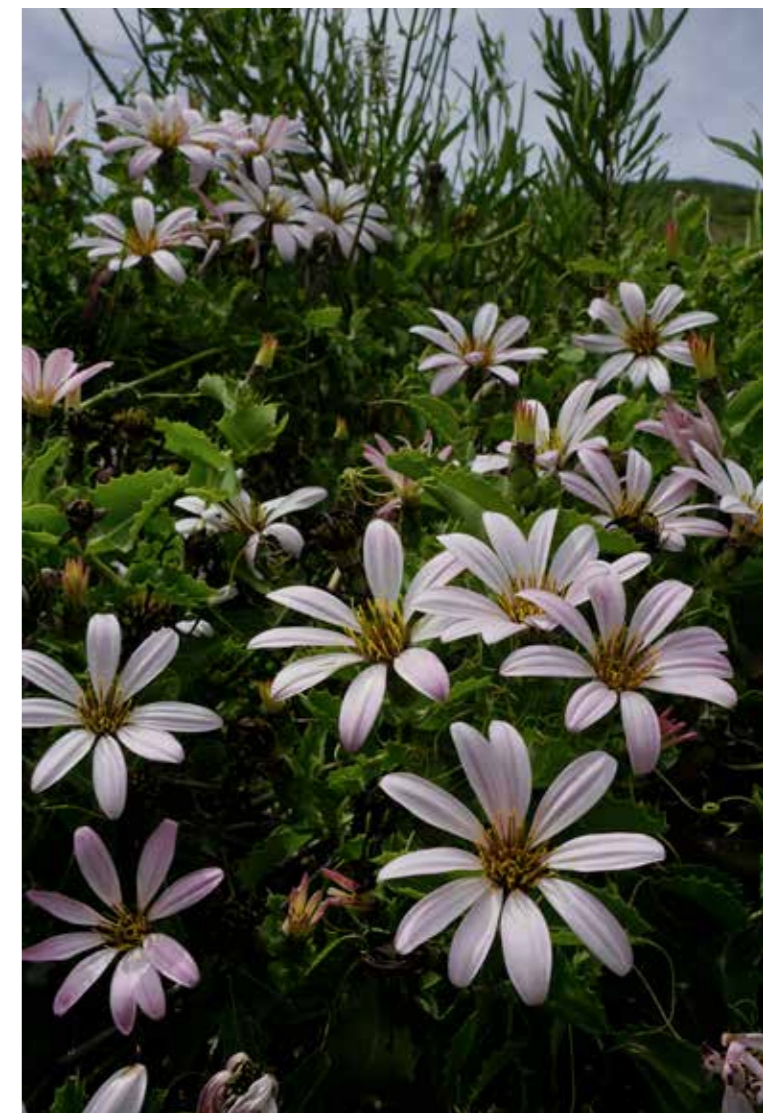


Oreopolus glacialis

of climbing up onto Cerro Torro on a blissfully calm day (this place can be seriously windy), to where there were stunning views of the entire Paine massif, that looked even better with some lovely alpine flora such as *Oxalis enneaphylla* and *Oreopolus glacialis*. The latter perfumed the stony slopes with its strong fragrance. There was a lone guanaco up there too, who seemed rather put out that three botanists have interrupted his realm. even it was gazing out over the landscape.

What is interesting is the very same *Oreopolus glacialis* can be found flowering next to *Oxalis adenophylla* (very much the equivalent of *O. enneaphylla*) thousands of kilometres to the north a month later. Indeed, the Andes are much higher in central Chile, reaching their zenith near Santiago. As such, the season is later and here is where one comes to see later season flora for example, *Mutisia*, *Caiophora coronata* and *Rhodophiala rhodolirion*, among the sun-drenched and colourful high slopes, with winter a distant memory - for the time being at least.

Lastly, at the end of a long day's botanising, there is always that refreshing Chilean muscle-relaxant; the Pisco Sour, to ease the aching muscles. Viva Chile!



Mutisa latifolia