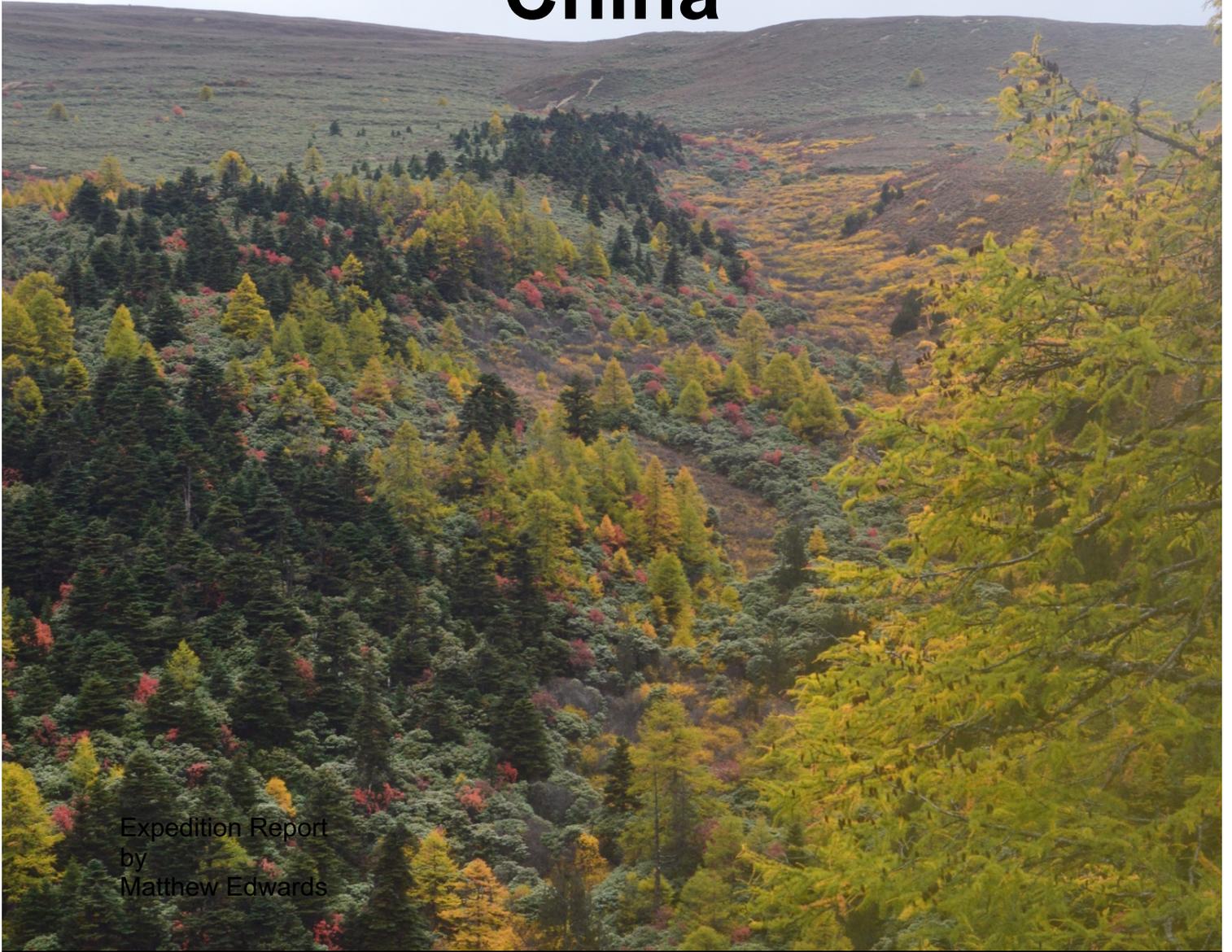


# Autumn Colours & Flowers of South-West China



Expedition Report  
by  
Matthew Edwards



*Primula poissonii*



*Gentiana sp.*



*Caltha palustris*



*Codonopsis convolvulacea*

# Contents

<b>AUTUMN COLOURS &amp; FLOWERS OF SOUTH-WEST CHINA</b>	
CONTENTS .....	2
ACKNOWLEDGEMENTS.....	3
AIMS & OBJECTIVES .....	4
<i>Aims:</i> .....	4
<i>Objectives:</i> .....	4
INTRODUCTION.....	5
EXPLORING & BOTANISING IN YUNNAN & SICHUAN .....	6
<i>Map</i> .....	6
<i>Exploring</i> .....	7
<i>Bei Sha He valley</i> .....	7
<i>Bai Ma Shan</i> .....	9
<i>Dar Shui Shan</i> .....	10
<i>Botanising</i> .....	13
PHOTOGRAPHS .....	14
APPENDIX .....	15
<i>Appendix A – Itinerary</i> .....	15
<i>Appendix B – Concise Expenses Report</i> .....	16
<i>Appendix C - Detailed Daily Expenses Report</i> .....	17

## **Acknowledgements**

I would firstly like to thank David and Stella Rankin for organising the expedition and inviting me to join them. Their experience in traveling and botanising, particularly in this part of China was invaluable. Their enthusiasm and dedication to discovering and understanding alpine flora is an inspiration.

Thank you to Craig Huggan, my friend and fellow traveller, for sharing and enriching the whole experience.

I am very grateful to our driver and guide, Yang Kun, without him we would have had a much harder time traveling and communicating.

I would like to wholeheartedly thank the SRGC and The Merlin Trust for their funding, without which I would not have had the opportunity to undertake this expedition.

Elea Strang and the team at Kevock Garden Plants for not only allowing me time away from the nursery during a busy Autumn but for encouraging to learn and develop my career through this experience.

## **Aims & Objectives**

### Aims:

The main aim of the trip was to learn from David and Stella; firstly, about the process of organising and arranging this type of expedition; and secondly about the botanical habitats and flora of the Yunnan & Sichuan regions of China.

A second, personal aim, was to increase my knowledge of Chinese plants, many of which we grow at the nursery in Scotland.

### Objectives:

The objectives of the expedition were as follows:

- To see autumn flowering plants in bloom – particularly species of Gentiana, Delphinium and Cyananthus.
- To see other autumn interest – foliage and fruit colour on plants such as Euphorbia, Berberis, and Sorbus.
- To experience the habitats of many other summer flowering plant species such as Rhododendron, Meconopsis and Primulas.
- To increase my understanding of Chinese flora, particularly growing conditions, so that I may share this knowledge within the horticultural community.

## **Introduction**

The mountains of South-West China are well known for their botanical diversity, many of our most beloved garden plants originate from seed collected in these areas by the great plant hunters such as Frank Kingdon-Ward; George Forrest; Père Jean Marie Delavay; André Soulié; and Reginald Farrer. In recent times, over the last 30 or so years, access to China has improved as has the infrastructure within the country, allowing modern day botanists the opportunity to rediscover and study the vast botanical treasures of the area. David and Stella Rankin have undertaken 13 expeditions to China in this period and note the massive improvement to transportation infrastructure they have witnessed. Although the development and construction of such large roads is destructive to the environment and habitats of the plants we are interested in, they do allow access to otherwise unreachable mountain passes and valleys. Thanks to the new roads and the determination of our driver Yang Kun, we managed to find our way to some places we believe to have been virtually unexplored by western botanists for at least a hundred years, including Bei Sha He valley and the new pass on Bai Ma Shan.

The expedition was planned for the Autumn, aiming to arrive after the monsoon season ended but before winter conditions set in, a glorious time when the hillsides explode with autumn colours, much more vibrant and diverse than in the UK. The Rankins had previously explored a lot of these areas on a summer expedition in 2016 so had some good knowledge of places of botanical interest to explore. Although there were less plants in flower than the summer, there were a good number and variety of autumn flowering plants for us to see as well as the fruit and seed heads of many of our favourite summer flowers. This gave Craig and I a chance to brush up on identification skills, with David showing us some of the key identifying features of the seed and seed capsules of some *Meconopsis* and *Primula* species.

# Exploring & Botanising In Yunnan & Sichuan

## Map

I have produced a map showing the main stops on our journey, starting at Kunming in the South and traveling to Chengdu to the North. The route shown is an approximation of the route as some smaller mountain roads are not shown.

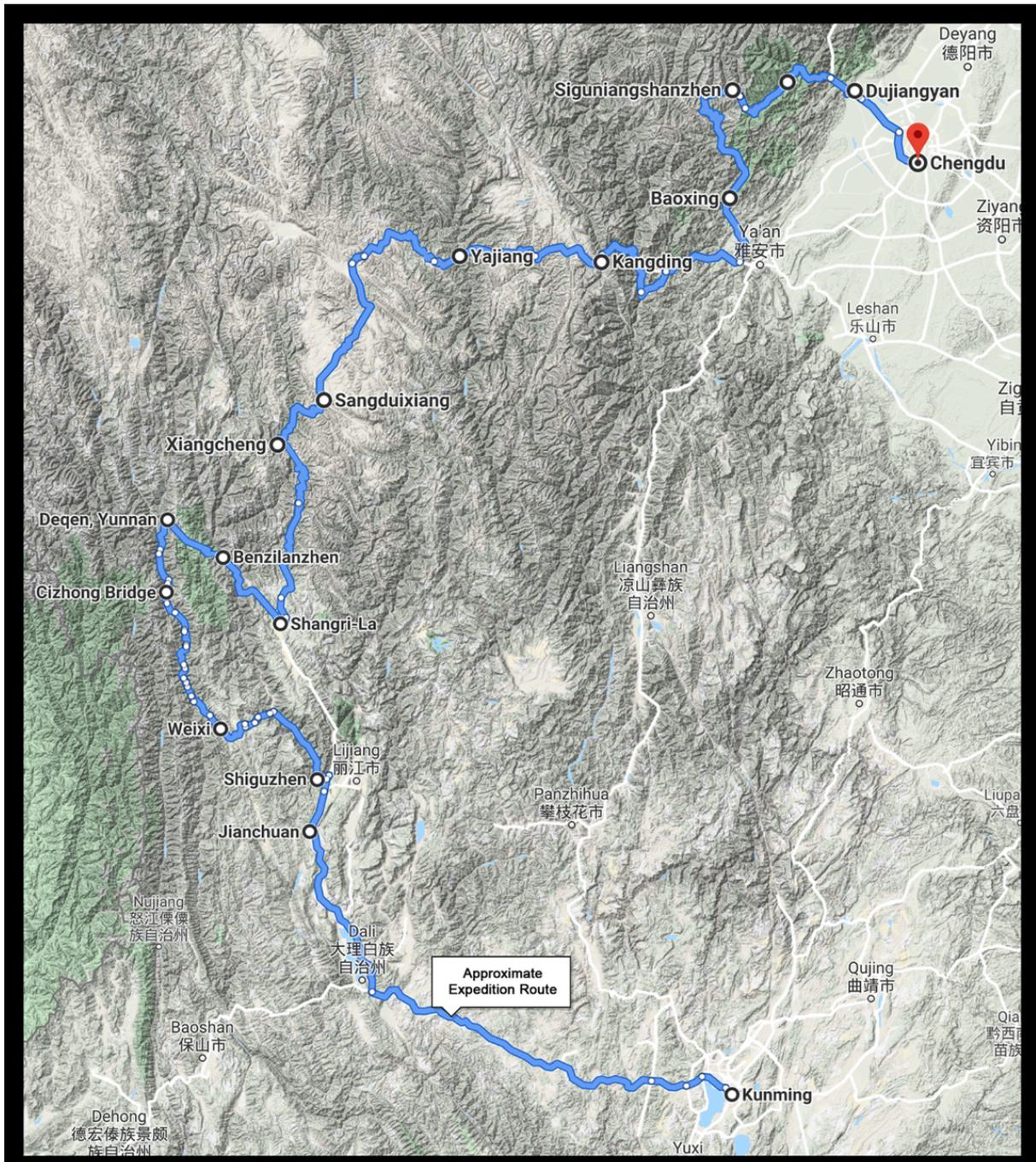


Figure 1: Map showing the approximate route taken.

## Exploring

One of the highlights of the expedition was discovering mountain sides and valleys that had been unexplored, at least from a botanical perspective, there was a real sense of discovery and excitement among the group on those days. I have outlined my experiences in some of these places.

### Bei Sha He valley

Our third day in China we travelled to the bottom of Bei Sha He valley, the location in which Delavay collected the type specimens for both *Meconopsis benicitifolia* and *Primula bracteata*. As far as we know no one has returned here to study the plants since then, which was the source of much excitement for not only would be the first to explore this valley in so long but we also had no idea of what to expect.

We set off up the valley following a small path, crossing back and forth over the river several times. We saw several species of *Arasarium* growing in the undergrowth, along with *Thalictrum delavayi*, and *Aconitum hemsleyanum*. The path soon faded out and we were greeted by a small population of *Primula poissonii* in flower growing round a pool of water. We continued following what remained of the forgotten paths, through dense foliage, thick with thorns from climbing roses and bramble, eventually finding it too hard to continue up the valley.

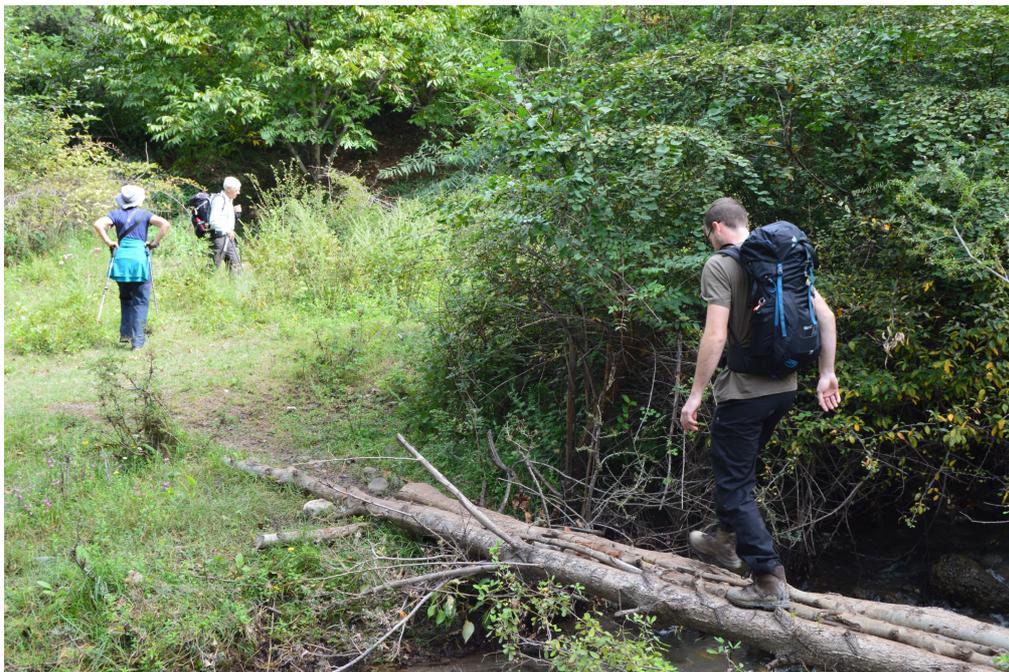


Figure 2: Crossing a bridge



Figure 3: Dense foliage

We were particularly interested in finding evidence of *P. bracteata*, which grows in often inaccessible scree slopes and rocky outcrops of the valley cliffs. Much of our time was spent discussing the best route through the undergrowth to access these areas further up the valley. Managing to find our way to the bottom of a scree slope slowly began the climb and found an abundance of flora growing in the scree such as *Clematis delavayi*, *Codonopsis* sp, and *Sarcococca confusa*.



Figure 4: David and Stella enjoy the view

Although we did not manage to get as far up the valley as we would have liked and we didn't find any evidence of *P. bracteata*, we did see some very interesting plants growing wild in an amazingly beautiful almost untouched place. The day also

highlighted some of the practical difficulties associated with botanising, the dense overgrowth and limited safe paths to walk made exploring the areas we wanted to very challenging.

## Bai Ma Shan

On our first evening in China we met some botanists from the Kunming Institute of Botany. One of the professors, Xiao Wu, told us of a new road that had been built which allowed access to a new pass on Bai Ma Shan and on the 9<sup>th</sup> October we made it there.

On the drive up the mountain side we passed through a vibrant mixed woodland, the colours of the *Sorbus* in particular were stunning. The pass itself was cold and misty, with very poor visibility, but we decided to walk up to the peak using the GPS to keep track of our route enabling us to follow it back to the car later in the day.

The mountain side was thick with dwarf *Rhododendron*, forming a heath, with dwarf *Salix* and *Sorbus reducta* also present. Many large clumps of different *Primula* species, including *P. sikkimensis*, dominated the hillside further up the slope.

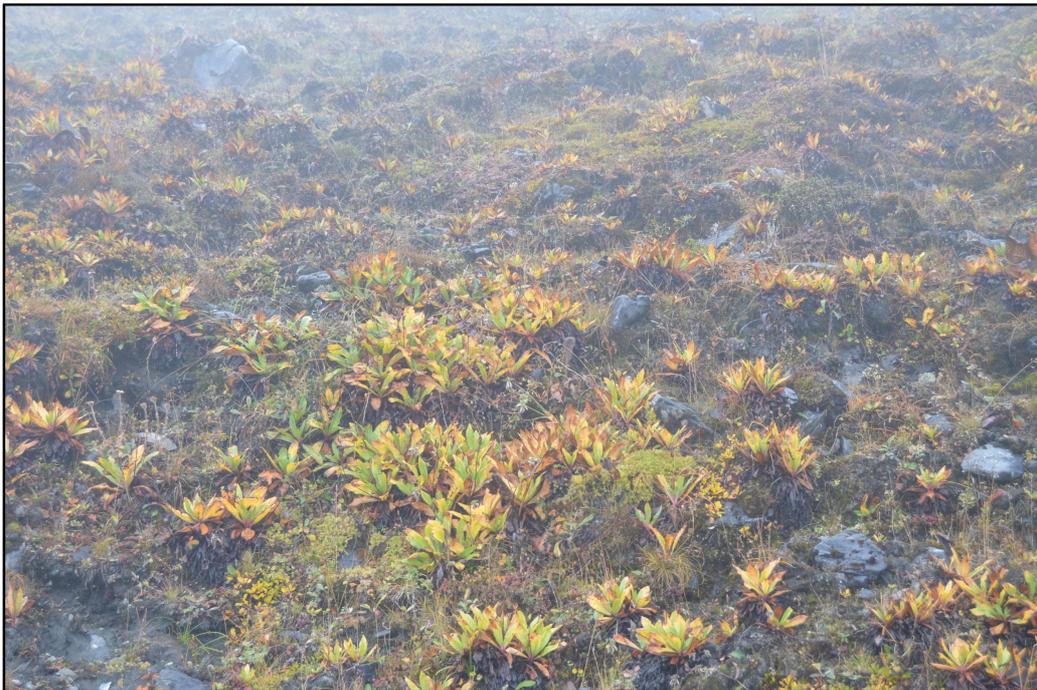


Figure 5: *Primula* on Bai Ma Shan

At points the slope was incredibly steep with only small tracks formed by the movement of yaks to help guide us, but as the ground levelled out a little towards the top the smell of *Codonopsis* filled the air, although we did not see any we did find some interesting *Meconopsis* resting buds which are unlike any we have seen before. There were also several seed heads of *Meconopsis rudis*. At the peak of the mountain, at around 4200m, we found a species *Genitiana* growing between *Gaultheria* shrubs and the rocks.



*Figure 6: Gentiana sp. growing on the rocks at the peak*

It was another challenging day, although the poor visibility gave us a chance to get to grips with the GPS and seeing the *Meconopsis* growing wild for the first time was particularly special for me, and even more so by the fact that it looks so different to any other *Meconopsis*.

### Dar Shui Shan

The landscape of Dar Shui Shan pass, on the border of the Yunnan and Sichuan provinces, is formed by large spires of limestone that rise out of huge scree slopes to create a towering ridge of peaks. It is one of the most dramatic landscapes I have ever seen and it was an exceptional place to explore.



Figure 7: Limestone ridge of Dar Shui Shan

We left from the pass and walked along the top of three smaller hills that formed a ridge towards the scree below the peaks, following yak tracks. We saw many of the same heathland species we had seen previously on the trip, as well as some *Primula boreiocalliantha*. The way in which the dwarf Rhododendron covered the slope on one side of the ridge and were completely absent on the other was particularly interesting, caused by the powerful and constant prevailing wind. Just before reaching the scree slopes we found a rocky outcrop abundant with *Paraquilegia anemonoides*.

The scree was very loose and heavily trafficked by yaks which meant there was little in the way of plant life, but we did see some evidence of *Meconopsis rudis* among the rocks. As we passed around to the far side of the large limestone ridge we were greeted with a large bowl shaped valley, sided by scree with a dry river bed running down the centre with patches of Rhododendron and Berberis growing along it. Craig and I ventured up the scree on the far side to a small cave we had arbitrarily chosen as our end point for the afternoon. On arriving at the cave we were astonished to see a *Meconopsis rudis* still in flower, growing in the shelter of the cave. It was an amazing plant and I would not have expected to see one flowering so late in the year.



Figure 8: Scree slopes and limestone crags



Figure 9: *Meconopsis rudis* in flower

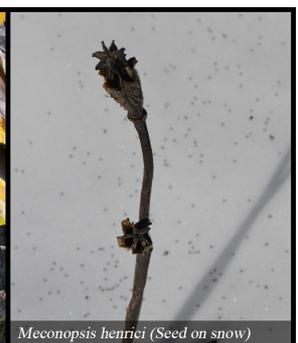
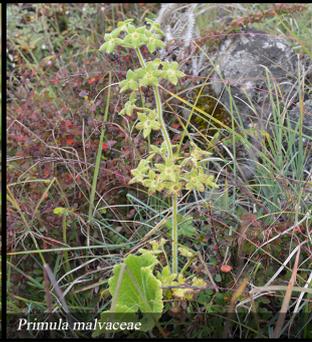
## Botanising

The botanical focus of our expedition was alpine flora, many species suitable to grow in Scotland. My identification skills were tested on numerous occasions, David is always keen to share his knowledge of various intricate differences between species: the distinct shape of *Primula sikkimensis* seeds or the capsule number and shape of *Meconopsis* seed heads.

Some rarer and more exciting plants that we saw included *Acontium hemsleyanum*, a species of *Acontium* notable for its climbing habitat; *Primula malvaceae*, seldom seen in cultivation with a very small wild distribution; *Parnassia gansuensis*, a delicate fringed flower known only to grow in one location in South-West China with its usual distribution being the North/North-East of the country; *Primula melenantha*, with a black flower, and *Primula longipetiolata*, both are rare primula growing near the Zheduo pass which was covered in six inches of snow when we were there, making finding any evidence of the plants even more of a challenge.

I have a personal interest in mushrooms, at home I forage for them each year, so I was amazed to see an abundance of fungi growing wild and also for sale on the street and in restaurants. Many mushrooms were ones I know from foraging in Scotland, but there were many I had never seen before. Identification of mushrooms is a much harder task, not only are most of my reference material focused on European fungi, identification often requires more detailed analysis of spore prints and other non-visible features.

# Photographs



## **Appendix**

### Appendix A – Itinerary

- 04<sup>th</sup> Oct – Edinburgh – Kunming
- 05<sup>th</sup> Oct – Kunming – Jianchuan
- 06<sup>th</sup> Oct – Jianchuan – Shigu
- 07<sup>th</sup> Oct – Shigu – Weixi
- 08<sup>th</sup> Oct – Weixi – Cizhong
- 09<sup>th</sup> Oct – Cizhong – Deqen
- 10<sup>th</sup> Oct – Deqen – Benzilan
- 11<sup>th</sup> Oct – Benzilan
- 12<sup>th</sup> Oct – Benzilan – Shangri-La
- 13<sup>th</sup> Oct – Shangri-La – Omsui
- 14<sup>th</sup> Oct – Omsui – Xiangcheng
- 15<sup>th</sup> Oct – Xiangcheng – Sangdui
- 16<sup>th</sup> Oct – Sangdui – Yajiang
- 17<sup>th</sup> Oct – Yajiang– Kangding
- 18<sup>th</sup> Oct – Kangding
- 19<sup>th</sup> Oct – Kangding – Baoxing
- 20<sup>th</sup> Oct – Baoxing – Rilong
- 21<sup>st</sup> Oct – Rilong – Wolong
- 22<sup>nd</sup> Oct – Wolong – Dujuangyan
- 23<sup>rd</sup> Oct – Dujiangyan
- 24<sup>th</sup> Oct – Chengdu – Edinburgh

## Appendix B – Concise Expenses Report

Costs	
Visa	£151.00
Travel insurance	£27.00
Mountain rescue cover	£52.00
Flights	£535.28
In China costs	£1,436.95
Personal expenses:	
Vaccinations, essential equipment, emergency supplies	£640.00
Total	£2,842.23
Contributions	
Merlin	£1,250.00
SRGC	£1,250.00
Personal	£640.00
Total	£3,140.00
Money to return	
Excess	£297.77
Amount to return to Merlin Trust	£148.89
Amount to return to SRGC	£148.89

## Appendix C - Detailed Daily Expenses Report

Day	Food	Hotel	Extras	Travel	Sub Total
1	£0.00	£88.94	£0.00	£0.00	£88.94
2	£58.29	£64.90	£0.00	£0.00	£123.20
3	£45.67	£28.85	£0.00	£240.38	£314.90
4	£49.04	£126.08	£0.00	£0.00	£175.12
5	£70.43	£43.27	£12.02	£0.00	£125.72
6	£51.80	£54.09	£0.00	£0.00	£105.89
7	£53.73	£43.27	£9.62	£0.00	£106.61
8	£59.01	£43.27	£0.00	£0.00	£102.28
9	£68.51	£64.90	£0.00	£0.00	£133.41
10	£3.61	£74.52	£0.00	£0.00	£78.13
11	£38.46	£57.69	£0.00	£0.00	£96.15
12	£68.75	£36.06	£0.00	£0.00	£104.81
13	£95.67	£88.94	£0.00	£0.00	£184.62
14	£100.84	£89.42	£8.17	£0.00	£198.44
15	£60.58	£89.42	£0.00	£0.00	£150.00
16	£61.66	£43.27	£4.81	£0.00	£109.74
17	£97.60	£79.33	£0.00	£0.00	£176.92
18	£19.35	£104.57	£0.00	£0.00	£123.92
19	£59.50	£31.20	£9.62	£0.00	£100.31
20	£140.14	£108.17	£63.58	£1,802.88	£2,114.78
21	£0.00	£0.00	£0.00	£1,033.89	£1,033.89
Totals:	£1,202.64	£1,360.17	£107.81	£3,077.16	£5,747.79