



Botanising in the Western Spanish Pyrenees

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1st - 7th July 2019

Report for the Hardy Plant Society



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Introduction

On the last Sunday in June I travelled from the UK to Pau, France to join the biennial Botanical Excursion of the International Hardy Plant Union, an organisation founded in 1965 by German, Dutch and Swiss nurserymen, with the idea of coordinating their interests on an international basis. From these early beginnings, the ISU has developed into an association of perennial plant growers and persons from related professions, with approx. 300 members in 16 European countries, as well as in the USA and Canada. The ISU is the only worldwide association of perennial plant growers, connecting professionals and promotes contacts all over the world.

In three vans we drove across the Pyrenees to Spain and the city of Jaca in the northeast which would be our base for the week. With a population of over 12,000, Jaca, which is located on the Aragón River, is situated at the crossing of medieval routes, leading from Pau to Zaragoza. The valleys, rivers, and mountain ranges in this region have remained relatively unspoiled and provide some majestic scenery. The excursion covered a range of different landscapes and a diversity of vegetation and the excursion allowed me to become acquainted with a wide range of habitats and their corresponding flora and fauna. We visited microclimates, both dry and humid and flora at differing elevations on the mountains. The itinerary was left flexible allowing us to adjust our plans each day with the weather. We arrived in Spain at the tail end of a European heatwave and temperatures remained high in Jaca throughout the week.



Itinerary

Day	Date	Route
	30.06.19	Arrival in Pau - Jaca, Spain
1	01.07.19	Circular route west of Jaca
2	02.07.19	North of Jaca
3	03.07.19	Mountains north east of Jaca
4	04.07.19	South east of Jaca - Aínsa - Cañón de Añisclo
5	05.07.19	Frontera de la Portalet
6	06.07.19	Ermita de Santa Elena - Frontera de la Portalet - Pau
	07.07.19	Departure from Pau

Day 1

Monday 1st July 2019

We began our first day driving from Jaca in a circular route west, stopping at various points to botanise the on the roadside and paths. In this Mediterranean zone the dominant *Genista horrida* which cast a bright yellow hue across the hillsides. They grew alongside bushy *Buxus sempervirens* which was often dwarfed due to the arid conditions, established plants had the look of bonsai as their roots reached down through the rocks in search of water. The silver leaves *Santolina chamaecyparissus* were another common occurrence across the landscape.

The parasitic plant *Cuscuta* spp. smothered hosts with its mound of yellow-orange stems. Two beautiful annuals both in the family Gentianaceae were found scattered around the perennials and shrubs, pink-flowered *Centaurium erythraea* and yellow-flowered *Blackstonia perfoliata*. The tuberous roots of *Anthericum liliago* allowed this flowering herbaceous perennial to cope with the pressure of lack of water.

Large swathes of goatgrass *Aegilops geniculata* carpeted areas by the roadside. Our first orchid sighting was *Anacamptis pyramidalis*, of which we would see many throughout the excursion. *Aegilops* played a significant role in the taxonomy of wheat, *Triticum aestivum* arose when cultivated emmer wheat hybridized with *Aegilops tauschii* about 8,000 years ago. Another find on the roadside, *Leuza conifera*, its bracts resembling a pine cone. On a rockface we found rosettes of *Saxifraga longifolia* and *Ramonda myconi*, two plants we would hope to find in flower over our week in the Pyrenees.

Our day culminated in a visit to San Juan de la Peña, a monastery which was important in the middle ages and surrounded by forest.







Day 2 Tuesday 2nd July 2019

On our second day, we drove further into the mountains, heading North towards an abandoned village where our guide Jacques Urban's family used to live. Walking at a higher elevation than the previous day we found species flowering here that had already finished at a lower elevation. The church in the village was built in the 1600s before the village was founded.

The start of our hike was characterised by more *Genista horrida* cushions and a selection of Poaceae, *Melica ciliata*, *Briza media* and *Stipa spp.* nestled in rocks between small rivulets along with the tissue paper-like flowers of *Paronychia kapela subsp. serpyllifolia*. We made our first sighting of *Helianthemum nummularium* which proved to be highly variable in colour from orange through salmon to pink, a species we would find in many different environments across this area. Here it grew on the woodland edge along with *Phyteuma orbiculare*, *Knautia arvensis* and *Ononis spinosa*. We discovered two more orchids alongside the footpath, *Orchis mascula* and *Platanthera chlorantha*.

We spent a late lunch by a waterfall surrounded by meadow and forest where great specimens of *Salvia pratensis*, *Gladiolus italicus* and *Thalictrum spp.* could be found.







Day 3 Wednesday 3rd July 2019

We headed out from Jaca in the direction of the French Border, northeast of Jaca. Following a footpath along the river Rio Gállego from Escarrilla, we headed towards a lake, Presa de Lanuza. The route took us through meadows, riverside flora and forest, and we encountered two waterfalls along the route.

The meadows at the base of the mountain were filled with *Viola cornuta* and *Iris latifolia*, *Phyteuma spicata* and the Burnt-tip Orchid *Neotinea ustulata*. Nestled in between rocks in the meadows were wonderful collections of *Sempervivum arachnoideum* sandwiched between the stones. Impressive stands of *Gentiana lutea* stood tall above the meadows which were scattered with the magenta pink of *Dianthus deltoides* and *Pedicularis mixta*.

At our first waterfall, we were rewarded with a fantastic specimen of *Lilium pyrenaicum*, here flowering in bright orange, but we would encounter a range of colour variation within the species as we climbed the mountain. In gaps between the woodland *Malva moschata* and *Atropa belladonna* grew in large clumps. As we reached the largest of the two waterfalls a thunderstorm descended upon us and we took shelter further down the mountain before heading back to Jaca.







Day 4

Thursday 4th July 2019

Leaving Jaca towards the southeast we began by exploring a Mediterranean climatic zone beginning at the viewpoint Mirador de Janovas. Here we encountered a diversity of the trees which we had seen across the landscape, *Juniperus sabina*, *Quercus ilex* and *Quercus seroides*. It was a very hot day and after making further stops at the same altitude it was decided that we were unlikely to see anything new so headed to the town of Aínsa where we visited a fortress surrounded by *Juglans spp.*, then stopped by the river to swim.

For our afternoon botanising we were treated to a trip down the Cañón de Añisclo, a canyon with a one-way road which stretches over 20km, forming a breach in the south slope of Mt Perdido. It had a huge array of flora clinging on to the limestone facade. The canyon is part of the Ordesa y Monte Perdido National Park. The result of the action of the river's water on the limestone rock has created environments where the terrain and the height allow the growth of vegetation in humid conditions and shadow cast by the deep canyon, produce dense forest. At times it felt like walking alongside a vertical forest floor with *Ruscus aculeatus* and *Adiantum spp.* at head height. Here we discovered vast swathes of the endemic carnivorous plant *Pinguicula longifolia* carpeting the walls of the canyon.





Day 5 Friday 5th July 2019

Travelling north from Jaca we arrived at Frontera de la Portalet to botanise in the mountains on the border with France. Splitting into groups we choose which Mountain we wanted to explore. I was fortunate to join Jonas a Nursery owner from Sweden and Georg and Iris who run a perennial seed company in Germany. Their extensive knowledge of the alpine flora and I was particularly impressed with their approach to navigating the mountain, assessing which way to ascend the slope to see as much floral diversity as possible.

At the foot of the mountain, meadows stretched out with a vast matrix of plants including *Horminum pyrenaicum*, *Centaurea montana*, *Arnica montana*, the orchid *Nigritella nigra* and *Phyteuma spicata*. Small rivulets running down the mountain created microenvironments where *Veratrum spp.* were thriving, along with *Pinguicula grandiflora*. The ground moved with frogs and lizards basking on the rocks jutting out from the lush vegetation. Here *Rhinanthus spp.* which parasitises and reduces the vigour of grasses, opening up the sward allowing wildflowers to thrive. As we climbed to higher altitudes we began to encounter more alpine flora, often forming ground-hugging mats, such as *Dryas octopetala*. Other plants of note included *Globularia cordifolia*, *Gentiana nivalis*, *Androsace alpina* and *Anemone narcissiflora*.





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61



24



28



174



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31



8



70

Day 6 Saturday 6th July 2019

Our last day was spent slowly making our way back to Pau. We left Jaca for the last time and took the road northeast to again join the Río Gállego make a walk to the sacred site of Ermita de Santa Elena, where a spring originated from the mountainside. On the way up the mountain, *Allium sphaerocephalon* were scattered in the scree. As the water cascaded down to the river we saw large drooping panicles of *Saxifraga longifolia*. Before our journey back to France we made a stop to see *Centranthus lecoquii* and further mountainside meadows.

For lunch, we returned to Frontera de la Portalet with time to explore some of the lower elevations we did not encounter the previous day. By the afternoon we had crossed back over the border, the stark contrast of verdant green forest felt a sharp contrast from the arid environments we had encountered on the Spanish side. The evening was spent eating together and walking through Pau before we split off to make our journeys home.



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Outcomes

The trip to the Spanish Pyrenees has had a significant impact on my professional and personal life. The opportunity to experience such a range of habitats and observe an extensive flora in such a short amount of time has been invaluable. Mentors, colleagues and horticulturist that I admire have often stressed the importance of observing how plants grow in the wild to best know how to grow them in cultivation. This trip enabled me to observe many genera that are grown ornamentally in the UK in their natural habitat, enabling me to observe their natural growing conditions and native plant communities.

The specific focus on hardy plants related directly to my experience working in the Gardens at Oxford Botanic Garden and have helped me to improve my knowledge and understanding of many of the plants in our collection. Being able to observe plant communities in their natural habitats, seeing the natural variation within species and the sometimes challenging environments and conditions plants will tolerate and how this affects growth and vigour has been a great insight.

I feel indebted to the sharing of knowledge and enthusiasm of the group. It was very inspiring spending time with experienced plantspeople who have travelled the world observing plants. Over the six days, I made many personal connections with professionals across horticulture that I hope will be of great value as I continue my career within horticulture.

	Taxa	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1	<i>Adiantum spp.</i>				•		
2	<i>Aegylops geniculata</i>	•					
3	<i>Allium sphaerocephalon</i>						•
4	<i>Anacamptis pyramidalis</i>	•					•
5	<i>Androsace alpina</i>					•	
6	<i>Anemone narcissiflora</i>					•	
7	<i>Anthericum liliago</i>	•		•			
8	<i>Antirrhinum spp.</i>						•
9	<i>Armeria alpina</i>					•	
10	<i>Arnica montana</i>					•	
11	<i>Atropa belladonna</i>			•			
12	<i>Blackstonia perfoliata</i>	•	•				
13	<i>Briza media</i>		•				
14	<i>Buxus sempervirens</i>	•					
15	<i>Catananche caerulea</i>	•					
16	<i>Centaurea montana</i>					•	
17	<i>Centaureum erythraea</i>	•	•				
18	<i>Centranthus lecoquii</i>						•
19	<i>Convallaria majalis</i>			•			
20	<i>Cuscuta spp.</i>	•					
21	<i>Cystopteris fragilis</i>			•			
22	<i>Dactylorhiza fuchsii</i>			•		•	
23	<i>Dianthus deltooides</i>		•			•	
24	<i>Dryas octopetala</i>					•	
25	<i>Eryngium campestre</i>			•			
26	<i>Genista horrida</i>	•	•				
27	<i>Gentiana crusiana</i>						
28	<i>Gentiana lutea</i>		•				
29	<i>Gentiana nivalis</i>					•	
30	<i>Gladiolus illyricus</i>	•					
31	<i>Globularia cordifolia</i>					•	
32	<i>Helianthemum nummularium</i>		•	•			
33	<i>Hepatica nobilis</i>			•			
34	<i>Horminum pyrenaicum</i>					•	
35	<i>Iris latifolia</i>			•		•	•
36	<i>Juniperus sabina</i>				•		
37	<i>Knautia arvensis</i>	•				•	
38	<i>Lathyrus sylvestris</i>	•					
39	<i>Leuza conifera</i>	•					
40	<i>Lilium martagon</i>					•	

	Taxa	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
41	<i>Lilium pyrenaicum</i>			•			
42	<i>Linum narbonnense</i>	•					
43	<i>Linum tenuifolium</i>	•					
44	<i>Linum viscosa</i>	•					
45	<i>Lotus corniculatus</i>	•				•	
46	<i>Malva moschata</i>			•			
47	<i>Meconopsis cambrica</i>			•			
48	<i>Melica ciliata</i>		•				
49	<i>Mentha longifolia</i>						•
50	<i>Neotinea ustulata</i>			•			
51	<i>Nigritella nigra</i>					•	
52	<i>Onobrychis vicifolia</i>	•					
53	<i>Ononis spinosa</i>		•				
54	<i>Orchis mascula</i>		•				
55	<i>Orobanche amethystea</i>						•
56	<i>Orobanche gracilis</i>						•
57	<i>Paronchia kapela subsp. serpyllifolia</i>		•			•	
58	<i>Pedicularis mixta</i>			•			
59	<i>Phyteuma orbiculare</i>		•				
60	<i>Phyteuma spicata</i>			•		•	
61	<i>Pinguicula grandiflora</i>			•		•	
62	<i>Pinguicula longifolia</i>				•		
63	<i>Platanthera chloranthe</i>		•				
64	<i>Prunella laciniata</i>	•					
65	<i>Ramonda myconi</i>				•		•
66	<i>Ruscus aculeatus</i>				•		
67	<i>Salvia pratensis</i>		•				
68	<i>Santolina chamaecyparissus</i>	•			•		•
69	<i>Sarcocapnos enneaphylla</i>				•		
70	<i>Saxifraga longifolia</i>				•		•
71	<i>Scabiosa columbarica</i>	•					
72	<i>Scutellaria alpina</i>					•	
73	<i>Sempervivum arachnoideum</i>			•		•	
74	<i>Stahelina dubia</i>				•		
75	<i>Stipa spp.</i>		•				
76	<i>Teucrium pyrenaicum</i>		•				
77	<i>Thalictrum spp.</i>		•				
78	<i>Trifolium rubens</i>						•
79	<i>Veratrum spp.</i>					•	
80	<i>Viola cornuta</i>			•		•	



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