

# *Honeyguide*

**WILDLIFE HOLIDAYS**

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**Spring in the Spanish Pyrenees  
23 April – 2 May 1996**

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The group

Bill Adams  
Anne Adams

Joyce Murphy

David Allcock

Peter Burge  
Sue Burge

Mary White  
Andrew White

Frank Dunn  
Joyce Dunn

Jim Ritchie  
Peggy Ritchie

Jenny Loring

Win Simons  
Alison Stanes

With commiserations to Janet Allcock, who didn't make it this year

Leaders:       Chris (the plantm, or moth) Gibson  
                  Chris (the rock) Riley  
                  Chris (the bird) Durdin

Report written by Chris Gibson, with geology section by Chris Riley.

Cover illustration of Berdún and other illustrations by Rob Hume, except red kite from Berdún (at the end of the daily log) by Bill Adams

As with all Honeyguide holidays, £25 of the cost of the holiday was put towards La Sociedad Española de Ornitología (SEO), the Spanish Ornithological Society, making a contribution of £375 towards SEO's campaign to save the steppes. During the course of this holiday, Juan Carlos Cirera Martínez of SEO's Zaragoza office came to Berdún to collect a cheque for £825, including contributions from both Pyrenees holidays this spring and £150 from Fuerteventura.

# SPANISH PYRENEES

## 23 APRIL - 2 MAY 1996

### *Tuesday 23 April: The journey there...*

The Heathrow skies were grey and gloomy, even producing a little (long-awaited) rain. A late morning flight, beginning with views of a nearby Concorde, showed cloud all across northern France, until we headed across Biscay above Nantes. Thereafter it was clear, with just a few fluffy clouds above Bilbao which gave a rather bumpy descent.

Once in the airport, we met up with the previous group leaders, who filled us in with the essential information - hot and sunny, with lots of lammergeiers! Appetites whetted, we met up with John Boucher (our host for the holiday) and boarded the coach for the four-hour journey to Berdún. Spring seemed to be in full swing: wisteria, Spanish broom and red valerian were all in bloom, and the first few common birds - carrion crow and house sparrow - entered the list.

About an hour out of Bilbao, the hills started to rise, clothed in bracken and gorse scrub, and oak, beech and birch woodland. Distant circling groups of raptors soon resolved themselves into the soon-to-be ubiquitous griffon vultures, with a sprinkling of common buzzards and, increasingly as we headed east, both red and black kites. Spying a familiar natural landmark, our driver Jose made a brief unscheduled stop near Vittoria: a white stork stood atop its massive nest on a church. This was to be our only stork of the trip, and it presented no problems at all, apart from inducing dark mutterings that it was stuffed. Given its lack of visible signs of life, it might as well have been!

Pressing onward into broad rocky valleys - Chris (the rock) Riley started to show an interest here - we soon came to our welcome coffee stop. Behind the cafe, the first spotless starlings were spotted (in both senses of the word - some were still in winter plumage) and a male cirl bunting performed admirably for a select group of admirers. As a sharp shower led to hasty reboarding of the coach, we lingered long enough to find lady orchid, cowslip and crosswort in the nearby verges and meadows.

East of Pamplona, the landscape started to become more familiar to those who had been here before: eroded marl, dominated by *Genista scorpius*, with cultivation (cereals and vines, as yet barely sprouting) wherever a little soil had accumulated. Several crag martins were wheeling around the dam at Yesa, although there was little bird life on the reservoir itself. But what a colour! The water was an intensely milky blue-green, the effects of bright sunlight on dissolved marl. Chris (the bird) Durdin spotted an osprey, whereas I (Chris the plant) trespassed on his patch by pointing out an Egyptian vulture sitting in a field, like an oversized chicken.

And there on the horizon appeared Berdún, a fortified hilltop town amidst the desolate marly slopes. From whatever angle, throughout the holiday, the first view of Berdún never failed to impress, and for me at least it is one of the abiding images of our trip.

We were all ready for our evening meal at Emilio's when we eventually arrived. But duly sustained, a brief recce of the village was in order, and gave us our first scops owls, both heard and seen, a chorus of mole crickets, Venus blazing away in the western sky, and dozens of silver-Y moths, darting around everywhere. I (reverting to 'Chris the moth') was in my element, and proceeded to make a couple of circuits of the village lights to get a feel for the nightlife. Perhaps surprisingly, about half of the species I caught proved to be identifiable with my British moth books.

### ***Wednesday 24 April: local walks around Berdún***

Almost the whole group emerged for a pre-breakfast walk, to witness great rivers of mist rolling through the valleys. This was a chance to familiarise ourselves with some of the exciting birds of the area - summer visitors like swifts which we had not seen for months, and those which are rare or absent in Britain, such as black redstart, serin, ciril bunting and rock sparrow, the latter in their usual spot below the lookout. All were destined to become familiar, though hopefully not boring. A dash of excitement was provided by a peregrine, behaving most uncharacteristically by chasing house martins, almost in the style, albeit less fluently, of a hobby. Then down below, trotting up a track across the Badlands, came a large fox, its dark coat belying the fact that it was the same red fox as we see at home. Finally, as the sun peeped up, the first rays lit upon the stunning orange breast of a male rock thrush, ample reward for our early start.

After breakfast and an introductory chat about the domestics, we headed down through the Badlands to the Rio Veral (and back again, though rather slower) in blazing sunshine. There were things to see almost every step of the way. Rustyback fern nestled under the town arch, sharing its gloom with a swallow's nest; out on the sunnier walls, ivy-leaved toadflax, snapdragon and red valerian created a mosaic of colour. Soon, the first few griffons started to drift over, and as it got hotter, so other birds of prey stacked overhead, including a lovely pale-phase booted eagle. A hobby shot through without a pause, and other passage birds included redstarts and another rock thrush. All had good views of subalpine warbler and crested lark, and Chris R discovered a common toad, taking refuge under a rock. Refuge from everything except geologists! Our resident dermatologist catalogued the numerous irritant plants - borage, wormwood and spurge, to name but a few; this countryside can seem a dangerous place, if you have the knowledge.

Down on the marl, we explored the very distinctive assemblage of plants, from shrubby species such as *Amelanchier*, *Genista* and barberry, through beautiful sub-shrubs like blue *Lithodora* and white rock-rose, to herbaceous species such as lady orchid, globularia and *Linum narbonense*, many gaining protection from browsing by growing through the spiny shrubs.

Eventually, by the river, the sound of tumbling water and the shade of the bankside willows and poplars helped to ameliorate the extreme heat. For us and for the birds - the trees harboured chiffchaffs, garden warbler, spotted flycatcher and robin, and four bee-eaters hawked noisily for flying insects. As lunchtime was fast approaching, it was soon time to retrace our steps, a long and sticky haul made more pleasant by the diverse aromas emanating from the *Genista*, *Santolina* and thyme.

After lunch, it was back down the hill, but in the opposite direction, to the Rio Aragon. A pleasant cooling breeze had sprung up to help us on our way. Through the village, we paused to admire a planted Judas tree, with its blushing pink flowers springing directly from the old wood. Around it, a carpenter bee - big and black, with violet tinges - caused some consternation, although opinions were divided as to whether or not it was as fearsome as it appeared. In the shelter of a wall, six tree sparrows were feeding on weed seeds, giving us a good opportunity to admire the smart plumage of this increasingly rare British bird.

Once across the main road, the verges assumed a more natural aspect, in places with dozens of lady orchids, elsewhere twinkling with rush-leaved narcissi. Butterflies were everywhere, including a pair of cleopatras engaged in courtship display flights. The blues, rarely seen well, proved mainly to be panoptes blues. On a rocky ridge, a settled peregrine caused one or two identification problems - we are not used to seeing them out of their aerial element - a male marsh harrier drifted past, and five or more wheatears bounced around a ploughed field.

By the river, a willow thicket played host to a mass of purple toothwort, a root-parasitic plant revealing nothing but its large purple flowers, while a reedbed to the south held (and largely concealed) a great reed warbler. On the road, a beetle appeared. Large and black, bearing very long antennae, and apparently loth to move, the book suggested it was a longhorn called *Lamia textor*; clearly it can read, as it was just as the book said 'sluggish, around osiers'. After such a full day, lifts back home were much appreciated by most, and those who nobly remained until the last load were justly rewarded by the sight of an osprey, low over the bridge, laboriously carrying a large fish in its talons.

After dinner, Chris D gave his talk about the area, concentrating upon the identification of birds of prey, a good chance to revise many of the numerous species we had seen in the day.

### ***Thursday 25 April: San Juan de la Peña***

There were distinctly fewer takers for the early walk: yesterday's exertions must have taken their toll. But they didn't miss much - there were fewer birds as well. As we set off by coach, our old friends from previous trips, the little owls on farm buildings by the road, performed on cue; so reliable are they that Jose had already stopped before they were spotted.

Near Puente la Reina, we made a short stop to explore another section of the Aragon. The song of nightingales filled the air, a male pied flycatcher made hunting sorties from the bushes, and several little ringed plovers flitted between islands in the river. A wryneck showed fleetingly, followed by a great spotted woodpecker, and a lovely clump of blue aphyllanthes in full flower became the subject of many photos.

Next, we stopped by the church at Santa Cruz de la Seros, a delightful village capped with an amazing array of traditional Aragonese chimneys. Some sat in the sun watching others walk and work (Jose mopping the back window of the coach), while the inveterate naturalists plodded uphill, among cowslips, hepaticas and violets, with griffons soaring overhead.

Aboard again, we made the final, spectacular ascent to San Juan de la Peña, with views across to the snow-capped high Pyrenees. Around the monastery, it was devoid of people, and also unfortunately of birds, apart from a few nuthatches and crested tits calling from the lichen-festooned pine woods. After lunch, we scrambled up to the 'grassy' knoll, actually a dense thicket of the 'horrid spiny broom' *Echinopartum horridum*, passing a few remnant flowers of the creamy wild daffodil (subspecies *alpestris*) and the nocturnal rootings of wild boar. Once on the ridge, we again found dwarf narcissi. There appeared to be two forms, tentatively assigned to rock narcissus and rush-leaved narcissus, although the two editions of the Alpine flora we had were somewhat contradictory as to their true identity. A hummingbird hawk-moth was sipping nectar from the sweetly-scented blooms, a green hairstreak flashed its underwings in the sunlight, and a distant goshawk drifted high overhead. Back in the woods, the group divided. Mine headed east, to Paseo Santa Teresa, where we were captivated by the sight and smell of a clearing completely carpeted in the mini-daffodils. The remainder went north to savour the views over to the high mountains.

Before leaving the mountain, we descended to the old monastery, built into and under a massive overhanging rock face. After a quick look at the museum displays, a short stroll down the wooded path towards Santa Cruz provided a convenient escape from the noise of a myriad of schoolkids, shattering the tranquillity of the monastery. The woods of hornbeam and lime were ringing with bird song, especially robins and blackcaps, and a male citril finch put in a brief appearance near the toilet

block. The familiar ground flora included wood spurge, garlic mustard, butcher's-broom and columbine, while a patch of morels demonstrated the powers of fungal growth, by pushing surprisingly through the metalling of the road edge.

As a final stop, we could not miss the spectacular viewpoint on the way down, where griffons were above and below us, on cliffs and even in trees. Not unexpectedly, these made us late back - too late for our intended pre-dinner meeting - which left time for a stroll around Berdún in the evening sunlight, surely one of the best times of day to see the village.

After dinner, almost the whole group assembled in the churchyard for a nightlife spectacular. With bat detector in hand, we saw and heard at least three species of bat hunting around the lights, including some excellent views of serotine. Scops owls hooted an accompaniment to Chris R. as he delivered an illuminating lecture about the stars and planets, and the passage of satellites overhead added a human touch to the night sky. A walk around the village then produced a superb emperor moth at rest, among several other species.

But the real highlight was reserved for my solo walk near midnight. Fluttering noisily around one light was what at first appeared to be a swallowtail butterfly, but soon revealed its true identity as a Spanish moon moth. It was a magnificent beast, with translucent green panels on the wings, eyespots and long swallow tails. I could not let the opportunity pass the others by, so at some personal risk, I managed to net it and kept it in a drinking glass until . . .

#### ***Friday 26 April: Riglos and Loarre***

. . . the dawn walk, when it was released onto a tree trunk before the massed admirers and cameras. The elaborate procedures we adopted to make sure everyone saw what they wanted proved unnecessary, as it settled down happily, and indeed it was still there in the evening.

Today's journey took us south, past a feeding flock of 20+ griffons in a field, great crested grebes and yellow-legged gulls on a reservoir, through maquis increasingly dominated by rosemary, to Riglos, a last outpost of the Pyrenees overlooking the Ebro valley. The village nestled at the foot of towering pink conglomerate cliffs, home to choughs, more griffon vultures, alpine swifts, crag martins, and more-or-less wild-type rock doves, despite disturbance from several climbers. The scrub on the lower slopes was the most Mediterranean habitat we encountered, sadly without its famous black wheatears, but with both Sardinian and Dartford warblers, and rock buntings. Two plants in particular caught our attention by the track - the intensely gentian-coloured blue gromwell, and the more sombre purple-brown goatsbeard *Tragopogon crocifolius*. Heading back through the village, we almost trod upon a cream-spot tiger moth resting on the road; it made a fine photographic subject, much to the consternation (but ultimately amusement) of a local man.

Lunch was taken in the old railway station, where we were able to find a little shade from an intensifying sun. Four aerial gems (bee-eaters) flew over, and the local flowers were attracting lepidoptera of all sorts - clouded yellow, orange tip, green-underside blue, silver-Y and, best of all, a broad-bordered bee hawk-moth, which we were able to restrain temporarily from its busy, buzzy foraging for all to see.

Further south still lay Loarre castle, set among box scrub. From the coach, on the lower slopes, we saw a hoopoe and a couple of tawny pipits; around the castle, there were several woodlarks and subalpine warblers, and a pair of rock thrushes, seen well but through a strong heat haze. Some of the group then opted for the castle from the inside, while others took a short walk which revealed

wildlife on the ramparts, most excitingly a blue rock thrush and a black wheatear. The latter was not exactly showing itself to advantage: a black bird in a black hole cannot be considered to be particularly cooperative.

Heading home, we made a final photo stop overlooking Los Mallos de Riglos, which glowed red in the late sunlight. Chris R demonstrated the folding and thrusting of rocks behind the former sea cliffs - rather excitedly, this was described as 'the geological equivalent of a lammergeier' . . . well, that may be true, but the rocks were certainly less elusive!

Today was Chris D's fortieth birthday, and suitably marked at dinner by cake, champagne and speeches. Then, to protect the liver of an ageing man from too much abuse, I gave my talk on Pyrenean wildlife, or 'what I did on my holidays the last time'.

### ***Saturday 27 April: High Pyrenees, Portalet and Formigal***

We needed an early start to get up to the high tops in good time, so there was no dawn walk. Just as well perhaps, as the weather had truly broken - solid cloud, looming low over the mountains, and producing sporadic rain. Despite this, once at the French border at Portalet, we disembarked for a walk among the rocks and snow patches. So high up (around 1700m) it was striking how late the season actually was - we had to work very hard to find many of the special plants. There were patches of wild daffodil in flower and a sparse sprinkling of spring gentians, but only unopened buds of trumpet gentians. On the rocks around the car park, vivid splashes of purple mountain saxifrage adorned even vertical faces, and we also managed to find two pink primulas in flower, bird's-eye primrose and *Primula hirsuta*.

Thoughts turned to birds as a chorus of whistles, clicks and crowing reached us, from a flock of about a hundred alpine choughs careering around the upper slopes. Piercing, piping notes then started up on both sides of the valley - this time not a bird, but alpine marmots, almost amorphous blobs of fur sitting atop boulders, proclaiming their territories. Other mammals were also evident, in the form of chamois dung, and the runs (and one dead specimen) of common vole worming around patches of recent snowmelt.

After a welcome coffee, an excessively steep scramble to the west produced much the same flora, with the addition of large patches of *Crocus albiflorus* and spurge-laurel, while parties of swallows and an occasional red kite moved north over the pass. By now, both species of kite were familiar to everyone, but every sighting of a long tail raised hopes for the long-awaited lammergeier.

Then we turned downhill, walking along the road and by the river. Common sandpipers were feeding in the rushing water, and numerous water pipits poked around for food alongside melting snow patches. One was found dead by the road - sad, but it provided a good chance to appreciate the beautiful, subtle blue and pink overtones to its breeding plumage. Even at this altitude, amphibians had apparently been active, as there were masses of frogspawn in the more tranquil pools; while examining these boggy fringes, our one and only, diminutive but delightful, alpine snowbell was located.

For lunch, we stopped below Formigal, by a lovely flowery meadow. Here, lower down, there were more gentians in flower, although they were closing rapidly in the rain, together with Pyrenean, kidney and horseshoe vetch and the rock-jasmine *Androsace villosa*. Ever further downhill, the last stop was at Escarilla, where some explored the tea room, while the rest investigated a rocky mound above the church and picnic site. The flora here was more typically lowland in nature, with rue-

leaved and meadow saxifrage, bulbous and meadow buttercup, early purple-orchid and wild liquorice. By now the weather was improving, and we wondered ruefully if we had missed another hot and sunny day; back home, the damp streets of Berdún told us otherwise. And damp it remained all night.

### *Sunday 28 April: Binies gorge*

Thick mist lying in the valleys lent a surreal aspect to the dawnscapes. A change in the weather is often likely to ground a few migrant birds, and today was no exception, with willow warblers and chiffchaffs in the trees, and also a very obliging wryneck, perched on a telegraph pole before disappearing down a hole in the centre.

As we assembled and waited for lifts to the nearby Binies gorge, several saw, and most heard, a hoopoe singing from the church spire. And below a regular scops owl perching post, there was the remnant of last night's meal, one wing of a giant peacock moth, almost the size of the whole span of the emperor moth I just happened to have in a pot in my pocket.

At Binies, while waiting for everyone to arrive, a rattling call led to much discussion: was it ciril bunting or Bonelli's warbler. That one proved elusive and remained unsolved. The dramatic 'entrance gates' to the gorge, an igneous dolerite intrusion, triggered another fascinating discourse from Rocky; the extra dimension his specialisms brought to the trip really helped to bring the rocks and landscape to life. Bird life in the gorge was rather limited, but the plants were superb, from carpets of Pyrenean hyacinth and curtains of Irish ivy, to the six species of fern nestling in the crevices of a wall. Rock plants, especially *Petrocoptis* and Pyrenean saxifrage, were obvious, the latter only just starting to extend a flower spike from its frosty rosette, and a local speciality *Ramonda*, allied to the African violets, found a roothold in the cracks on north-facing rocks in the upper gorge.

Not unexpectedly, given the torrent below, a dipper was seen, bobbing on a wet rock, no doubt feeding on insects such as the large pondskaters which were assembling in areas of slack water. A little smaller, but no less impressive (if only through revulsion) was a large tick; fortunately, we found it crawling over a rock, rather than embedded in someone's skin.

A meadow at the top of the gorge provided a suitable spot for lunch; Duke of Burgundy fritillary was one of the several butterflies flitting around. On the nearby slopes we came upon a small group of Pyrenean fritillaries (plants, not butterflies), before most of the group headed on to try and locate red-backed shrikes (fruitlessly). Then the rain started, heavy and continuous for almost an hour. Time to abandon ship, everyone headed back to try and intercept our lifts half way, while I remained in charge of the luggage. I got my reward with ciril bunting and Bonelli's warbler singing in the same tree. Separation is easy when the songs are side-by-side!

And so I trudged back, eventually meeting the keen walkers near the bottom of the gorge, before setting off for Berdún along the river. Marsh frogs chorused, like demented ducks, from the riverside pools, and an Iberian chiffchaff sang from the willows. Then, a real treat, thirteen bee-eaters flying around, trilling, which landed in a dead tree 'hanging there like exotic fruit'. Viv's orchid meadow came up trumps with burnt tip, sombre bee, woodcock and early spiders, and a Spanish yellow wagtail showed its key features admirably from the top of a bush. The mass of barberry kept everyone amused with its touch-sensitive stamens; rarely have I seen so many entertained by something so simple for such a length of time!

It proved to be a long haul back, especially as the weather was improving steadily, and a rest

followed by dinner were most welcome. Later, John gave us the benefit of his intimate knowledge, with a fascinating talk about Berdún, its people, history and architecture.

### ***Monday 29 April: Arbayun and Lumbier gorges***

Although it was clear to the east, low cloud loomed over Yesa - just where we were heading. The question 'why?' formed in our minds, especially as we drew out of Berdún to the sight of 17 griffons hanging overhead. However, despite ever-darkening skies, the journey was enlivened by views of booted and short-toed eagle, and coot and jay around the reservoir.

By the time we reached the viewing platform at Arbayun, the weather was seriously unpleasant - cold, cloudy, and windy, with sporadic rain. Not surprisingly, the vultures didn't put on as spectacular a show as they might: many refused to contemplate leaving the roosting ledges, and the rest just headed down the gorge to get below the cloud. There were a few other birds - alpine swifts and a couple of bee-eaters high up, a song thrush singing in the gorge, and subalpine warblers in the scrub around the car park. Of the diverse shrubs, the most attractive was *Spiraea hypericifolia*, its branches garlanded with small white flowers, and a few Pyrenean fritillaries nodded unassumingly from the grassy patches. Despite these, though, no-one was sorry to get back on the coach and head for Lumbier.

Improving weather and birds lifted our spirits during a quick walk into the gorge before lunch: griffon vultures tumbled around on strong updraughts, with three Egyptian vultures and a peregrine, while choughs courted and crag martins mated. As we ate, the aerial parade continued, with several booted eagles and ravens joining the vultures, and in a quarry by the picnic site, we found large groups of early spider orchids and a lovely patch of the pink *Convolvulus cantabricus*.

Back into the gorge, several new plants appeared, including some with a distinctly Mediterranean feel, reflecting the sheltered conditions. Wild jasmine, clothed in yellow, sadly unscented, flowers formed low thickets with clumps of the sandalwood *Osyris alba*. Everything was green and flourishing, apart from the spindle trees which had been defoliated by the communal larvae of a small ermine moth. Then near the bottom of the gorge, everyone was able to have excellent views of griffon vultures, adults and chicks, on their nesting ledges.

As we emerged from the bottom tunnel, a whole new world opened up, a world which was warmer, brighter and wholly uplifting. Butterflies were everywhere, including scarce swallowtails, green-underside blues and a Spanish festoon. Spotted and pied flycatchers were chasing insects over the river, and blackcaps and a melodious warbler were scouring the tree canopy. A small meadow was filled with hundreds of lady orchids, displaying a range of colour forms, and on the hillsides, the intense blue of beautiful flax, delicate rose of Pyrenean flax, and deep pink shrubby rest-harrow glowed in the sunlight. Even the sombrest of the sombre, the mud-coloured sad stock, assumed a gentle beauty all of its own.

Pressing on towards Liedena, the fun continued. A stripy-eyed Egyptian locust flew from our feet; a Dartford warbler dropped in to sing from a trackside bush; yellow bee and mirror orchids twinkled in the verges; a stunning male rock thrush sat helpfully in a grape vine; and a platoon of almost 90 griffons hung over the opposite side of the valley. The scale of this sight didn't dawn on me until we got home; that one group consisted of around 1% of the entire Iberian population.

What a day! After such an unpromising start, it had transformed into what many felt was the best day of the holiday. To cap it off, Juan Carlos from SEO came up to meet us that evening, to receive a

cheque for the holiday contributions towards their work and to deliver a lecture about their impressive achievements in the Spanish Steppes project. Everyone was enthralled, not to say amazed, by his talk (in English), full of passion and humour, while delivering its message so effectively.

### ***Tuesday 30 April: local walks***

The so-called ‘free’ day, as usual, was a busy as any. The dawn walk picked up a few new migrants, tree pipit and whitethroat, with small parties of swallows heading north. Equally interesting were parties of goldfinches pecking at the ‘nests’ of pine processionary moths. The accepted wisdom is that the caterpillars are unpalatable, to all except cuckoos, so were the finches after insects or seeds trapped in the silk, or perhaps taking it to line their nests?

After breakfast and more birthday congratulations, this time to Peter, we were invited across the road to the bakery. Jose-Luis clearly takes great pride in his craft, and everyone appreciated the chance to see him in action. Then we departed for another walk down to the Veral. Small migrants were much in evidence, including tree pipit, melodious warbler and pied flycatcher, and raptors were also moving, including a couple of honey buzzards. A male Montagu’s harrier put on a superb display as it quartered the hillsides.

By the river, I contrived to deposit my camera lens off the bridge. Fortunately its fall was broken by a foot of water, and after drying and cleaning it is no worse for wear. While I retrieved it, the rest were able to savour the pleasures of half-a-dozen bee-eaters on the opposite bank. An intrepid few then accompanied me on a cross-country circuit of the Badlands, where we stumbled across a velvet ant *Dasylabris maura* and a lovely pair of black-eared wheatears. The others walked on over the river, and then came back the ‘easy’ way, up the track; melodious warbler, short-toed eagle, skylark and common blue butterfly were among their haul.

It was Emilio’s for lunch, and as a result for several people the free afternoon was spent ‘watching for lammergeiers’ in the sun. But, dispersed far and wide, the group saw quite a lot - an emergence of ‘real’ (as opposed to ‘scarce’) swallowtails; a host of tassel hyacinths in the graveyard; short-toed eagle over the town; and green sandpiper in the river. That is, until late afternoon, when the cloud rolled in, the wind got up, and the rain and thunder started.

It rained on and off all evening, and by dark everywhere was dripping. No doubt in response to this, on one of my nocturnal circuits I almost tripped over an enormous toad. Twelve centimetres long, and almost as wide, it was huge; when I took it to the library to show anyone who was still up, it was regarded somewhat warily. When it jumped, so did everyone else! Our ideas about geologists were confirmed when Chris R was heard to describe it as the ‘sexiest amphibian I’ve ever seen.’

### ***Wednesday 1 May: Aisa***

Another day for the high tops, another day with blanketing clouds, as we sadly waved farewell to Peter on his early departure. Our plan was to drive right up Binies gorge, into the Hecho valley, and across the mountains, eventually to Aisa. However, just approaching Binies, the coach slowed and then stopped, and Jose started to walk around with a spanner and a worried expression. Apparently the clutch had gone, and we had to improvise. A few visited Binies village, others stayed with the coach, but most started trekking back to Berdún. Under a strengthening sun, it became a bit of an ordeal, though a cloud of fifty griffons were some compensation.

We made it back to Berdún for lunch, by which time we had a replacement coach and driver. Ricardo at least had some command of English - his two words were 'Liverpool' and 'Manchester'. Taking a more direct route, we eventually reached Aisa at 4PM. This high 'lost valley' is one of the delights of the western Pyrenees, although for us it was rather spoiled by our hurried visit, and by poor weather - mist, cloud, rain, hail and snow. As a result, the gentians were still in tight bud, but at least the *Narcissus minor* made a super show, and a few chamois ranged over the scree slopes. But one last surprise awaited us. Scanning the clifftops, Chris D said 'I've got a bird . . . flying across . . .' Instantly thoughts turned to lammergeier, but no, even better. 'Wallcreeper!' And there it was, on a distant rock, occasionally coming out to shiver its wings at the lucky few with 'scopes in the right place. That really set the seal on the whole, wonderful holiday, and it didn't really matter that the giant of the skies had eluded us.

After dinner, the traditional last night celebrations commenced; what a productive lot this group was, with limericks galore, all rounded off by a musical (?) offering from the Three Chrises.

### ***Thursday 2 May: the journey home***

And so we were homeward bound. Although the weather during our stay had been patchy, the few days of hot weather had brought on the season quite significantly; what had been rather dull looking slopes around Yesa, were now pink with the new flowers of shrubby rest-harrow. The last few vultures and kites drifted past the coach, to fix in our minds the memory of the raptor-filled skies, and yes, there was the stork, still tending its nest. Plunged back into the relative squalor of Bilbao, all that remained was one last tick on the bird list (taking it to 116 species) - black-headed gulls on a river - and home.



# **Geological Report by Dr Christopher Riley**

## **Spring in the Pyrenees 1996**

### **Day 1.**

Flying into Bilbao you'll have noticed the Alpine style scenery which we later drove through as we left the city. Underlying these hills are a series of beds of limestones, sandstones, and shales all tipped up vertically and then cut by rivers flowing north into the Bay of Biscay. Climbing out of these dissected lands we reached a flat highland plateau of horizontal limestone and shale beds. As we drive further east, approaching the Pyrenean mountain range these rock layers begin to dip south, occasionally folded in places into tight tiny folds and larger open arches. Further east we pass several limestone quarries in the hillsides. Elsewhere rivers cut canyons through this same limestone, which forms spectacular entrances when the slabs are tipped up vertically. Approaching the Yesa reservoir we drive through softer rocks called marls which help to give the water its turquoise colour.

High above them to the north are dramatic limestone cliffs created when a large lake lapped against them. The soft, fine grained marls which Berdún sits on were washed off these highlands and deposited as vast alluvial fans in the lake.

### **Day 2.**

Strolling round and about Berdún we get a long opportunity to examine these soft marls close up. Everywhere they have formed very distinctive intensely gullied landscapes called "badlands". This gullying is caused by over-grazing, exposing the soft rocks to erosion by the rain.

The marls around here are also characterised by harder resistant layers. These formed during periods when the lake levels fell. As the lakes dried up the marl fans were exposed and their surfaces dried out. Crystals grew hardening the sediments and creating the hard resistant layers which jut out of the marl slopes around the town today. Most of the rocks are grey but there are occasional red areas, where rivers flowed into the lake from a different direction, bringing red sediments from elsewhere.

### **Day 3.**

Driving towards Santa Cruz we stop in the river channel where the banks were made up of chaotic piles of large pebbles. On closer examination we see that the layers are quite well sorted with the largest pebbles at the bottom of the bank and the smallest at the top. All these deposits were formed by rivers flowing northwards off the hills to the south.

At Santa Cruz the vast cliffs above us were formed in the same way as the deposits in the river channel. The jumbled, pebble-filled rocks are called conglomerates and they are also laid down by rivers which flowed over this area way above our heads 10 million years ago.

### **Day 4.**

Driving south towards the Ebro basin we cut through the sub-Pyrenean mountain range. This is the southern margin of the mountain range. The rocks are largely limestone again, and they're tipped and tilted south, and often folded into vast curves. These rocks formed high ground at the northern edge of the Ebro basin. At Riglos massive rivers flowed off these limestone highlands, depositing the conglomerate rocks which form the awesome cliffs above the village today. Behind these cliffs is a huge buttress of limestone folded and thrust south by the Pyrenees. The massive folds in these limestones represent the extreme southern limits of the Pyrenees - the geological equivalent of the Lammergeier!

Further south into the Ebro basin where we have lunch we sit on an old lake bed. The rivers which laid down the conglomerate cliffs behind us had lost much of their energy as they reached this lake and the rocks which they deposited here are much more fine grained. Sandstones and siltstones are common.

### **Day 5.**

Heading north across the whole mountain range we pass through the whole suite of rocks which make these mountains. Much of these started life as sediments laid down on ocean or lake floors. Since

then these layers have been tipped up and folded into a crumpled mess. Hot granite magmas intruded into them at the heart of the mountain. All this heating and squashing changed or metamorphosed the original sediments creating marbles out of limestones, and slates out of mudstones. Other metamorphic rocks we see on this drive to the French boarder include phyllite, schist and gneiss. At the boarder there are lots of striped rocks formed by injection of hot liquid quartz into them, which cooled later as white stripes. Near here we cross the North Pyrenean Fault - marking the geological boarder between the Iberian and the European plate. This is the geological equivalent of a flock of Lammergeiers! Behind the meadow we stop in is a huge buttress of rock surrounded by swirling mists. This is the remains of the massive molten granites which cooked the sedimentary rocks around us.

#### **Day 6.**

Walking up Binies gorge we are walking back in time from a period called the Cretaceous, famous for the chalk lands of southern England, to the Tertiary period. At the boarder between these periods something incredible happened on Earth. 80% of the Earth's species, including the dinosaurs were wiped out. The most popular theory to explain this is that a huge meteorite or comet collided with Earth, throwing up billions of tonnes of dust into the atmosphere, blocking out the sun, cooling the climate and halting the food chain. The Cretaceous rocks at the start of the walk are quite fossil rich, with coral reefs and brachiopod shells. Interbedded with them are layers of igneous rocks called dolerite - which were intruded into the sediments, bringing with them hot mineral rich solutions which crystallised out in veins of sparkling white "dog-tooth" calcite. The whole set of rocks were then tipped up and folded, forming huge vertical walls of rocks like the one at the entrance to the canyon. At the end of the walk near the picnic site we've reached older Tertiary rocks. Here they are mainly mudstones and sandy limestones which show swirling mixed up structures, formed when the sediments collapsed and slipped down sub-marine slopes, stirring themselves up.

#### **Day 7.**

Overlooking Arbayun gorge we are staring into a feature cut entirely by the river running through the bottom of the valley today. The canyon walls are made of limestone with horizontal rows of caves and notches, occupied today by the vultures. These were cut by the river as it sliced through the layers of rock to create the gorge. Similar features can be seen at closer quarters in Lumbier gorge where high above our heads caves and undercuttings have been carved by the river as it cut the gorge.

Also in the walls of the gorge we can see a series of faults, where the rocks have broken up into blocks and then moved past each other, vertically or horizontally.

#### **Day 8 - Berdún again.**

#### **Day 9.**

Heading back into the highlands, we enter the realms of the Pyrenean glaciated scenery. Entering the Aisa valley we cross hummocky scenery of piles of unsorted gravels. These were dumped by the ice when it melted. As we climb higher into the valley we drive through a classic U-shaped valley gouged by the moving ice which truncating the spurs jutting into the main valley. In the valley floor harder areas of rock are left, rounded, but standing proud. These features are known as mountain sheep or "roches moutonnées". At the very top of the valley is the site where this massive glacier was born. It formed in the armchair shaped hollow at the far end of the valley, plucking and enlarging this natural amphitheatre out of mountains. The peaks around us represent the epicentre of a geological catastrophe which thrust billions of tonnes of rock skyward and sent geomorphological shock waves through the entire landscape we've seen around us.

#### **Day 10 - Return to Bilbao.**

## WILDLIFE LISTS

### KEY TO LOCALITIES

Where a species was found at just a few sites, these are coded as indicated as shown below. Apart from the birds, species noted only on the journeys are not generally included. English names are given for species only where one is in common usage.

B - Berdún, including the banks of the Veral and Aragon  
Bi - Binies Gorge  
PR - Puente la Reina, banks of the Aragon  
J - San Juan de la Peña  
R - Riglos  
Lo - Loarre  
A - Arbayun Gorge  
L - Lumbier Gorge  
F - Formigal and Portalet; FE - only at the tea stop (Escarilla)  
Ai - Aisa

### BRYOPHYTES (Mosses)

*Rhytidiadelphus squarrosus* B

### PTERIDOPHYTES (Ferns)

*Asplenium adiantum-nigrum* Black Spleenwort Bi FE  
    *A. ruta-muraria* Wall-rue B Bi  
    *A. trichomanes* Maidenhair Spleenwort Bi L  
*Ceterach officinarum* Rustyback Fern B Bi L  
*Cheilanthes maderensis* Bi  
*Polypodium australe* Southern Polypody Bi  
    *P. vulgare* Common Polypody Bi L  
*Pteridium aquilinum* Bracken J

### GYMNOSPERMS (Conifers)

*Cupressus sempervirens* Cypress B R L  
*Juniperus communis* Juniper B Bi J R  
    *J. communis* ssp. *nana* F Ai  
    *J. phoenicia* Phoenician Juniper L A  
*Pinus halepensis* Aleppo Pine R  
    *P. nigra* Black Pine B J F  
    *P. pinea* Stone Pine R  
    *P. sylvestris* Scots Pine B J F  
    *P. uncinata* F  
*Taxus baccata* Yew Bi

### DICOTYLEDONS

#### Aceraceae

*Acer campestre* Field Maple B Bi J A  
    *A. monspessulanum* Montpellier Maple Bi

#### Anacardiaceae

*Pistachia lentiscus* Lentisk Bi R  
    *P. terebinthus* Turpentine Tree Bi R L  
*Rhus coriaria* A

**Apocynaceae**

*Vinca major* Greater Periwinkle FE  
*V. minor* Lesser Periwinkle J

**Aquifoliaceae**

*Ilex aquifolium* Holly J

**Araliaceae**

*Hedera helix* Ivy B J R  
*H. hibernica* Irish Ivy Bi

**Aristolochiaceae**

*Aristolochia pistlochia* Bi L

**Asclepiadaceae**

*Vincetoxicum hirundinaria* Swallow-wort Bi

**Berberidaceae**

*Berberis vulgaris* Barberry B J P R

**Betulaceae**

*Betula pendula* Silver Birch B J

**Boraginaceae**

*Borago officinalis* Borage B  
*Buglossoides purpureocaerulea* Blue Gromwell B R  
*Cynoglossum cheirifolium* R  
*Echium vulgare* Viper's Bugloss B  
*Lithodora fruticosum* Shrubby Gromwell B R L  
*Lithospermum arvense* Corn Gromwell B R  
*Symphytum officinale* Comfrey B

**Buxaceae**

*Buxus sempervirens* Box B J R Lo A L FE

**Cactaceae**

*Opuntia ficus-indica* Prickly-pear B

**Cannabinaceae**

*Humulus lupulus* Hop L

**Caprifoliaceae**

*Lonicera etrusca* L  
*L. periclymenum* Honeysuckle B  
*L. pyrenaicum* Bi  
*L. xylosteum* Fly Honeysuckle B J  
*Sambucus ebulus* Dwarf Elder B J  
*Viburnum lantana* Wayfaring Tree B J  
*V. opulus* Guelder-rose J

**Caryophyllaceae**

*Arenaria grandiflora* Ai  
*A. leptoclados* Lesser Thyme-leaved Sandwort R  
*A. serpyllifolia* Thyme-leaved Sandwort B  
*Cerastium fontanum* Common Mouse-ear B J R  
*Dianthus subacaulis* L  
*Paronychia argentea* L

*Petrocoptis pyrenaica* Bi P  
*Silene alba* White Campion Bi  
    *S. viridiflora* Bi FE  
    *S. vulgaris* Bladder Campion L  
*Stellaria media* Common Chickweed B R

#### **Celastraceae**

*Euonymus europaeus* Spindle-tree L

#### **Chenopodiaceae**

*Chenopodium polyspermum* Many-seeded Goosefoot B

#### **Cistaceae**

*Helianthemum apenninum* White Rock-rose B J R L  
    *H. canum* Hoary Rock-rose R  
    *H. nummularium* Common Rock-rose B  
    *H. nummularium* ssp. *pyrenaicum* L  
    *H. organifolium* L

#### **Compositae**

*Achillea millefolium* Yarrow F  
*Arctium minus* Lesser Burdock Bi L  
*Artemisia absinthium* Wormwood B  
    *A. campestris* Field Southernwood B P  
*Asteriscus aquaticus* R  
*Bellis perennis* Daisy B J F  
    *B. sylvestris* A  
*Calendula arvensis* Field Marigold B R  
    *C. officinalis* Marigold B  
*Carduus tenuiflorus* Slender Thistle B  
*Carlina acanthifolia* F Ai  
    *C. acaulis* Stemless Carline-thistle F  
*Centaurea calcitrapa* Red Star-thistle B R  
*Cichorium intybus* Chicory L  
*Cirsium arvense* Creeping Thistle B R  
*Crepis vesicaria* Beaked Hawk's-beard B R  
*Helichrysum stoechas* L  
*Hieracium pilosella* Mouse-eared Hawkweed Bi  
*Rhagadiolus stellatus* R  
*Santolina chamaecyparissas* Lavender Cotton B L  
*Senecio vulgaris* Groundsel R  
*Silybum marianum* Milk Thistle B R  
*Staelhelina dubia* Bi  
*Taraxacum* sp. Dandelion B R F  
*Tragopogon crocifolius* R  
*Tussilago farfara* Colt's-foot F  
*Volutaria lippii* L

#### **Convolvulaceae**

*Convolvulus arvensis* Field Bindweed B  
    *C. cantabricus* L

#### **Cornaceae**

*Cornus sanguinea* Dogwood B Bi J L

#### **Corylaceae**

*Carpinus betulus* Hornbeam J  
*Corylus avellana* Hazel Bi J

### **Crassulaceae**

- Sedum dasyphyllum* Thick-leaved Stonecrop R  
*S. reflexum* Rock Stonecrop Bi J R  
*Umbilicus rupestris* Navelwort Bi R L

### **Cruciferae**

- Aethionema saxatile* Burnt Candytuft Bi J  
*Alliaria petiolata* Garlic Mustard Bi J  
*Alyssum alyssoides* Small Alison B L  
*Arabis alpina* Alpine Rock-cress Bi  
*A. hirsuta* Hairy Rock-cress Bi  
*A. turrata* Towercress Bi J FE  
*Brassica napus* Rape B  
*Capsella bursa-pastoris* Shepherd's-purse B  
*Cardaria draba* Hoary Cress B R  
*Draba aizoides* Yellow Whitlow-grass F  
*D. dubia* F  
*Erophila verna* Spring Whitlow-grass J  
*Erysimum cheiranthoides* Treacle Mustard B  
*E. grandiflorum* FE  
*Lepidium heterophyllum* Smith's Pepperwort P  
*Lunaria annua* Honesty B  
*Matthiola fruticulosa* Sad Stock L  
*Sinapis arvensis* Charlock B  
*Sisymbrium austriacum* Austrian Rocket F  
*S. officinale* Hedge Mustard B  
*Thlaspi alpestre* Alpine Pennycress F

### **Cucurbitaceae**

- Bryonia dioica* White Bryony B Bi L

### **Cuscutaceae**

- Cuscuta* sp. Dodder R

### **Dipsacaceae**

- Dipsacus fullonum* Teasel B

### **Ericaceae**

- Arctostaphylos uva-ursi* Bearberry J  
*Vaccinium myrtillus* Billberry J

### **Euphorbiaceae**

- Euphorbia amygdaloides* Wood Spurge B J  
*E. chamaebuxus* Pyrenean Spurge B  
*E. characias* Large Mediterranean Spurge B Bi P J R L  
*E. helioscopia* Sun Spurge B  
*E. hyberna* Irish Spurge F  
*E. serrata* B Bi P R L

### **Fagaceae**

- Fagus sylvatica* Beech J  
*Quercus coccifera* Kermes Oak J R L  
*Q. ilex* Holm Oak Bi J P  
*Q. petraea* Sessile Oak J  
*Q. pubescens* Downy Oak Bi  
*Q. pyrenaica* Li

### **Fumariaceae**

- Fumaria capreolata* Ramping Fumitory L  
*F. officinalis* Fumitory B

### **Gentianaceae**

- Blackstonia perfoliata* Yellow-wort B  
*Gentiana acaulis* Trumpet Gentian F Ai  
*G. verna* Spring Gentian F Ai



### **Geraniaceae**

- Erodium cicutarium* Common Stork's-bill B J L FE  
*E. malacoides* B R  
*Geranium molle* Dove's-foot Crane's-bill B J  
*G. purpureum* Little-Robin L  
*G. pusillum* Small-flowered Crane's-bill B  
*G. robertianum* Herb-Robert B Bi J  
*G. rotundifolium* Round-leaved Crane's-bill B J R

### **Gesneriaceae**

- Ramonda myconi* Bi

### **Globulariaceae**

- Globularia punctata* Bi  
*G. repens* J F  
*G. valentina* B Bi

### **Guttiferae**

- Hypericum nummularium* Bi  
*H. perforatum* Perforate St. John's-wort B

### **Juglandaceae**

- Juglans regia* Walnut B

### **Labiatae**

- Ajuga chamaepitys* Ground-pine B P  
*Lamium amplexicaule* Henbit Dead-nettle B R  
*L. purpureum* Red Dead-nettle J FE  
*Lavandula angustifolia* B J R  
*Marrubium vulgare* White Horehound B R  
*Phlomis lychnitis* Bi R L  
*Rosmarinus officinalis* Rosemary R  
*Salvia verbenaca* Wild Clary B R L  
*Stachys recta* Yellow Woundwort L  
*Teucrium chamaedrys* Wall Germander L FE  
*Thymus serpyllum* Wild Thyme Ai  
*T. vulgaris* Garden Thyme B R P

### **Leguminosae**

- Anthyllis vulneraria* ssp. *forondae* Kidney Vetch F  
*A. vulneraria* ssp. *pyrenaica* L F Ai  
*Astragalus glycyphyllos* Wild Liquorice FE  
*A. monspessulanus* Montpellier Milk-vetch B Bi L  
*Cercis siliquastrum* Judas Tree B R  
*Colutea arborescens* Bladder Senna B Bi P  
*Coronilla emerus* Scorpion Vetch B Bi L  
*C. scorpioides* R  
*Dorycnium pentaphyllum* Bi L  
*Echinospartum horridum* J Lo

*Genista hispanica* Spanish Broom Bi  
     *G. scorpius* B P J R L  
*Hippocrepis comosa* Horseshoe Vetch B Bi J F  
*Laburnum anagyroides* Laburnum B  
*Lathyrus aphaca* Yellow Vetchling B  
     *L. bauhini* Bi  
     *L. filiformis* Bi  
     *L. montanus* Bitter Vetch J  
     *L. setifolius* B R L  
*Lotus corniculatus* Bird's-foot-trefoil B R  
*Medicago arabica* Spotted Medick B  
     *M. lupulina* Black Medick B R  
     *M. sativa* Lucerne B  
*Onobrychis viciifolia* Sainfoin B R  
*Ononis fruticosa* Shrubby Rest-harrow B R L  
*Oxytropis campestris* Meadow Milk-vetch Bi  
*Psoralea bituminosa* Pitch Trefoil Bi R L  
*Vicia cracca* Tufted Vetch J R  
     *V. pyrenaica* Pyrenean Vetch F  
     *V. sativa* Common Vetch B R

### **Linaceae**

*Linum campanulatum* L  
     *L. narbonense* Beautiful Flax B L  
     *L. suffruticosum* Pyrenean Flax L

### **Loranthaceae**

*Viscum album* ssp. *album* Mistletoe B Bi  
     *V. album* ssp. *austriacum* Bi J R FE

### **Malvaceae**

*Malva sylvestris* Common Mallow B P  
     *M. neglecta* Dwarf Mallow Bi

### **Moraceae**

*Ficus carica* Fig L

### **Oleaceae**

*Fraxinus excelsior* Ash Bi L  
*Jasminum fruticans* Wild Jasmine Bi L  
*Olea europaea* Olive R  
*Phillyrea angustifolia* A

### **Orobanchaceae**

*Lathraea clandestina* Purple Toothwort B Bi  
*Orobanche hederæ* Ivy Broomrape Bi

### **Papaveraceae**

*Chelidonium majus* Greater Celandine Bi  
*Papaver argemone* Prickly Poppy R  
     *P. rhoeas* Common Poppy B  
*Roemeria hybrida* Violet Horned-poppy Bi

### **Plantaginaceae**

*Plantago lanceolata* Ribwort Plantain B  
     *P. media* Hoary Plantain B J  
     *P. sempervirens* PR Lo

### **Polygalaceae**

*Polygala comosa* Tufted Milkwort B R  
*P. nicaeensis* B Bi J

### **Polygonaceae**

*Oxyria digyna* Mountain Sorrel Bi

### **Primulaceae**

*Androsace villosa* F  
*Coris monspeliensis* Bi  
*Primula elatior* Oxlip F Ai  
*P. farinosa* Bird's-eye Primrose F  
*P. hirsuta* F  
*P. veris* Cowslip Bi J F Ai  
*Soldanella alpina* Alpine Snowbell F  
*Vitaliana primuliflora* F Ai

### **Ranunculaceae**

*Aquilegia vulgaris* Columbine Bi J  
*Caltha palustris* Marsh-marigold F  
*Clematis vitalba* Traveller's-joy B Bi J  
*Helleborus foetidus* Stinking Hellebore B Bi J L FE  
*H. viridis* Green Hellebore F Ai  
*Hepatica nobilis* J F  
*Ranunculus acris* Meadow Buttercup FE  
*R. amplexicaule* B Bi J  
*R. arvensis* Corn Buttercup B  
*R. bulbosus* Bulbous Buttercup FE  
*R. gouanii* F  
*R. gramineus* A  
*R. parnassifolius* F  
*R. pyrenaicus* F  
*Thalictrum minus* Lesser Meadow-rue A  
*T. tuberosum* Bi A

### **Resedaceae**

*Reseda lutea* Mignonette B Bi  
*R. phyteuma* Corn Mignonette P R

### **Rhamnaceae**

*Rhamnus alaternus* Mediterranean Buckthorn Bi A L

### **Rosaceae**

*Alchemilla alpina* Alpine Lady's-mantle F  
*A. splendens* Intermediate Lady's-mantle F  
*Amelanchier ovalis* Snowy Mespilus B Bi J R FE  
*Crataegus monogyna* Hawthorn B Bi J FE  
*Fragaria vesca* Wild Strawberry Bi FE  
*F. viridis* J  
*Geum montanum* Alpine Avens J  
*Malus sylvestris* Crab Apple Bi  
*Potentilla micrantha* Pink Barren-strawberry J  
*P. repens* Creeping Cinquefoil B  
*P. tabernaemontani* Spring Cinquefoil Bi J F  
*Prunus avium* Wild Cherry J F  
*P. mahaleb* St. Lucie's Cherry Bi A  
*Rosa canina* Dog Rose B Bi  
*R. glauca* B Bi

*R. rubiginosa* Sweet Briar A  
*Rubus fruticosus* Bramble B Bi J  
*Sanguisorba minor* Salad Burnet Bi P J R L  
*Sorbus aria* Whitebeam J  
*Spiraea hypericifolia* A L

### **Rubiaceae**

*Asperula taurina* B  
*Cruciata laevipes* Crosswort B J  
*Galium aparine* Cleavers B L  
    *G. mollugo* Hedge Bedstraw L  
    *G. verum* Lady's Bedstraw Bi L  
*Rubia peregrina* Wild Madder J L  
*Sherardia arvensis* Field Madder R L

### **Salicaceae**

*Populus nigra* Black Poplar B  
    *P. tremula* Aspen B  
*Salix alba* White Willow B Bi  
    *S. purpurea* Purple Willow B P

### **Santalaceae**

*Osyris alba* R L

### **Saxifragaceae**

*Saxifraga granulata* Meadow Saxifrage FE  
    *S. longifolia* Pyrenean Saxifrage Bi J R FE  
    *S. oppositifolia* Purple Mountain Saxifrage F  
    *S. tridactylites* Rue-leaved Saxifrage Bi FE

### **Scrophulariaceae**

*Antirrhinum majus* Snapdragon B Bi L  
*Chaenorhinum organifolium* Bi  
*Cymbalaria muralis* Ivy-leaved Toadflax B  
*Linaria supina* Prostrate Toadflax L  
*Rhinanthus minor* Yellow Rattle F  
*Verbascum sinuatum* R  
*Veronica persica* Common Field Speedwell B  
    *V. prostrata* F  
    *V. teucrium* Ai

### **Solanaceae**

*Hyoscyamus niger* Henbane P  
*Solanum dulcamara* Bittersweet Bi

### **Thymelaeaceae**

*Daphne laureola* Spurge-laurel J F

### **Tiliaceae**

*Tilia cordata* Small-leaved Lime J  
    *T. platyphyllos* Large-leaved Lime Bi

### **Ulmaceae**

*Ulmus* sp. Elm B Bi

### **Umbelliferae**

*Daucus carota* Wild Carrot B  
*Eryngium campestre* Field Eryngo B Bi R L

*Foeniculum vulgare* Fennel R  
*Sanicula europaea* Sanicle J  
*Scandix pecten-veneris* Shepherd's-needle B R

#### **Urticaceae**

*Parietaria judaica* Pellitory-of-the-wall R  
*Urtica dioica* Stinging Nettle B J  
*U. urens* Annual Nettle B

#### **Valerianaceae**

*Centranthus ruber* Red Valerian B  
*Valeriana dioica* Marsh Valerian L  
*V. globularifolia* L  
*Valerianella* sp. Cornsalad L

#### **Violaceae**

*Viola odorata* Sweet Violet Bi J  
*V. pyrenaica* F  
*V. riviniana* Common Dog-violet J

#### **Vitaceae**

*Vitis vinifera* Grape Vine Bi

### **MONOCOTYLEDONS**

#### **Amaryllidaceae**

*Narcissus minor* Ai  
*N. pseudonarcissus* ssp. *alpestris* J  
*N. pseudonarcissus* ssp. *pseudonarcissus* Wild Daffodil F  
*N. requienii* Rush-leaved Daffodil B J FE  
*N. rupicola* Rock Daffodil J Ai

#### **Araceae**

*Arum italicum* Italian Lords-and-Ladies L

#### **Cyperaceae**

*Carex acutiformis* Lesser Pond-sedge B  
*C. divulsa* Grey Sedge Bi L  
*C. flacca* Carnation Sedge Bi

#### **Dioscoreaceae**

*Tamus communis* Black Bryony Bi L

#### **Gramineae** (very incomplete)

*Anthoxanthum odoratum* Sweet Vernal-grass B  
*Arundo donax* Giant Reed B  
*Bromus sterilis* Barren Brome B  
*Catapodium rigidum* Fern-grass B  
*Dactylis glomerata* Cock's-foot B  
*Festuca vivipara* Viviparous Fescue B  
*Hordeum murinum* Wall Barley B  
*Melica uniflora* Wood Melick Bi  
*Phragmites australis* Common Reed B P  
*Poa annua* Annual Meadow-grass B  
*P. pratensis* Smooth Meadow-grass B

#### **Iridaceae**

*Crocus albiflorus* F

*Iris germanica* Purple Iris P

### **Juncaceae**

*Luzula campestris* Field Woodrush F

### **Liliaceae**

*Allium moly* Bi

*A. roseum* Rose Garlic R

*Aphyllanthes monspeliensis* B Bi P

*Asparagus acutifolius* Bi

*Asphodelus albus* White Asphodel Bi J A FE

*Fritillaria pyrenaica* Bi A

*Hyacinthus amethystinus* Bi A

*Muscari comosum* Tassel Hyacinth B L

*M. neglectum* Grape-hyacinth B Bi J R L

*Ruscus aculeatus* Butcher's-broom Bi J L

*Veratrum album* White False-helleborine F

### **Orchidaceae**

*Dactylorhiza sambucina* Elder-flowered Orchid F

*Ophrys fusca* Sombre Bee-orchid B L

*O. lutea* Yellow Bee-orchid L

*O. scolopax* Woodcock Orchid B L

*O. speculum* Mirror Orchid L

*O. sphegodes* Early Spider-orchid B P J L (right)

*Orchis mascula* Early Purple-orchid J FE

*O. purpurea* Lady Orchid B Bi A L

*O. ustulata* Burnt Orchid B



### **Typhaceae**

*Typha latifolia* Greater Reedmace B

### **LICHENS**

*Cladonia foliacea* J

*Peltigera aphthosa* F

*Rhizocarpon geographicum* F

*Usnea* sp. J

### **FUNGI**

*Gyromitra esculenta* False Morel J

### **MAMMALS**

Northern Mole F Ai (molehills only)

European Free-tailed Bat B

Serotine B

Pipistrelle B

Rabbit R

Red Squirrel J (eaten cones only)

Alpine Marmot F

Common Vole F (one dead and lots of runs)

Snow Vole Ai (runs)

Red Fox B P (only droppings at the latter site)

Wild Boar J Ai (rootings only)

Chamois (Isard) F Ai (only droppings at the former site)

## FISH

Trout Bi

## AMPHIBIANS

Marsh Frog B Bi

Common Frog F

Common Toad B Bi

Common Toad (southern subspecies *spinus*) B

## REPTILES

Green Lizard L Lo

Iberian Wall Lizard B J R L

Common Wall Lizard F

## BIRDS

**Great crested grebe** - on Yesa and the other reservoirs we passed

**Grey heron** - singles on both rivers at B, and at P

**White stork** - on nest near Vittoria

**Honey buzzard** - two over B

**Black kite** - everywhere, except the very highest areas

**Red kite** - everywhere, even high up, though perhaps slightly less numerous than black kites

**Egyptian vulture** - B Bi R L

**Griffon vulture** - everywhere, except very high up; some large concentrations

**Short-toed eagle** - B Bi R L

**Marsh harrier** - B, two sightings

**Montagu's harrier** - B, two sightings

**Goshawk** - one at J

**Sparrowhawk** - B A

**Buzzard** - at most sites, in small numbers, except high up

**Booted eagle** - B Bi R A L

**Osprey** - singles at B(Aragon) and Yesa

**Kestrel** - small numbers at each locality

**Hobby** - one at B

**Peregrine** - B Bi J L

**Coot** - Yesa

**Little ringed plover** - P

(**Ringed plover** - a possible on the Veral at B)

**Green sandpiper** - one at B on the Veral

**Common sandpiper** - B Bi P F

**Black-headed gull** - Bilbao

**Yellow-legged gull** - on the reservoirs and rivers; all large gulls specifically identified were this species

**Rock dove/feral pigeon** - everywhere, some genuine-looking rock doves at R and L

**Woodpigeon** - J R Ai

**Collared dove** - in all built-up areas

**Turtle dove** - B Lo

**Cuckoo**

**Scops owl** - abundant and noisy at night

**Little owl** - B A, associated with old barns

**Swift**

**Alpine swift** - B R A

**Bee-eater** - B R A

**Hoopoe** - singles at B and Lo

**Wryneck** - B P

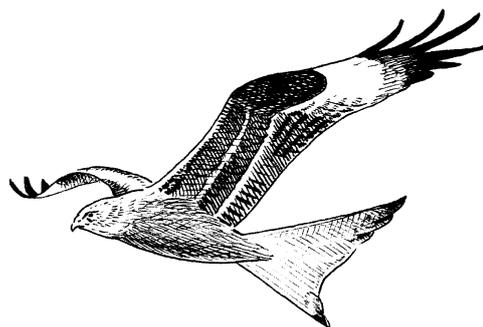
**Green woodpecker** - B, by the Veral

**Great spotted woodpecker** - B P J

**Crested lark** - in all cultivated areas

**Woodlark** - small numbers at B A Lo

**Skylark** - small numbers at B F L

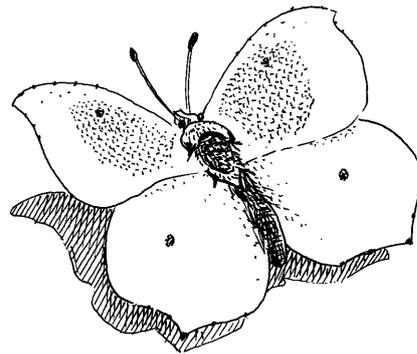


**Sand martin**  
**Crag martin**  
**Swallow**  
**House martin**  
**Tawny pipit** - a couple at Lo  
**Tree pipit** - two migrants at B  
**Meadow pipit** - F Ai  
**Water pipit** - numerous at F  
**Yellow wagtail** - at several lowland sites; the only ones subspecifically identified were Spanish race  
**Grey wagtail**  
**White wagtail**  
**Dipper** - Bi Ai  
**Wren** - especially in the higher wooded and rocky areas  
**Duncock** - Ai  
**Robin**  
**Nightingale**  
**Black redstart** - in every built-up area  
**Redstart**  
**Stonechat**  
**Wheatear** - including small flocks in arable fields around B  
**Black-eared wheatear** - a pair on the Badlands at B  
**Black wheatear** - one on the castle at Lo  
**Rock thrush** - B L Lo F  
**Blue rock thrush** - R Lo Ai  
**Blackbird**  
**Song thrush** - B J A  
**Mistle thrush** - R Ai  
**Cetti's warbler** - around every river site  
**Great reed warbler** - one on the Aragon at B  
**Melodious warbler** - B L  
**Dartford warbler** - B R L  
**Sardinian warbler** - R L  
**Subalpine warbler** - B R A L  
**Garden warbler** - B  
**Whitethroat** - B  
**Blackcap**  
**Bonelli's warbler** - Bi  
**Chiffchaff** - including Iberian race birds singing at B and L  
**Willow warbler**  
**Goldcrest** - J  
**Firecrest**  
**Spotted flycatcher** - B J L  
**Pied flycatcher** - B P L  
**Long-tailed tit** - B Bi J  
**Crested tit** - J Lo  
**Coal tit** - J F Ai  
**Blue tit**  
**Great tit**  
**Nuthatch** - Bi J  
**Wallcreeper** - single at Ai  
**Short-toed treecreeper** - J  
**Golden oriole** - B, seen and heard on early morning walks  
**Red-backed shrike** - one on roadside fence on the journey there  
**Woodchat shrike** - one by the road on the way to Ai  
**Jay** - B Bi J Yesa  
**Magpie**  
**Alpine chough** - a large flock at F (Portalet)  
**Chough** - Bi R L

**Jackdaw** - R L  
**Carrion crow**  
**Raven**  
**Spotless starling**  
**House sparrow**  
**Tree sparrow** - B  
**Chaffinch**  
**Serin**  
**Citril finch** - J, near the old monastery  
**Greenfinch**  
**Goldfinch**  
**Linnet**  
**Yellowhammer** - one at F (below Portalet)  
**Cirl bunting**  
**Rock bunting** - B R  
**Corn bunting**

#### **BUTTERFLIES**

Grizzled skipper sp. Bi  
 Swallowtail B J R  
 Scarce swallowtail B J R L  
 Spanish festoon L  
 Large white B J R L  
 Small white B J R  
 Wood white J  
 Mountain dappled white J  
 Orange tip B Bi J R L  
 Clouded yellow R  
 Pale clouded yellow B  
 Brimstone B J R  
 Cleopatra B J R L (*right*)  
 Red admiral B J FE  
 Small tortoiseshell F  
 Painted lady B J R FE  
 Comma B  
 Violet fritillary B J  
 Wall B J R L  
 Duke-of-Burgundy fritillary Bi  
 Common blue B  
 Holly blue J  
 Green-underside blue B J R L  
 Panoptes blue B J L  
 Green hairstreak J L



#### **MOTHS**

Rush veneer B L  
*Yponomeuta cagnagella* L (caterpillars)  
 Spanish moon moth B J?  
 Emperor moth B  
 Giant peacock moth B  
 Pine processionary moth - caterpillars everywhere where there were pine trees  
 Fox moth B  
 Lackey B (caterpillar)  
 Hummingbird hawk-moth J  
 Broad-bordered bee hawk-moth Bi R  
 Figure-of-eight L (caterpillar)  
 Lesser swallow prominent B  
 Cream-spot tiger R

Brown-tail Bi (caterpillars)  
 Oak hook-tip A  
 Garden carpet B  
 Galium carpet Bi  
 Lime-speck pug B  
 Cypress pug B  
 Cream wave B  
 Common Heath J  
 Latticed heath Bi  
 Yellow belle B  
 Shuttle-shaped dart B  
 Angle shades R  
 Silvery arches B  
 Four-spotted J  
 Burnet companion Lo  
 Silver Y - everywhere, numerous

### **OTHER INVERTEBRATES**

*Arion ater* a large black slug F  
 Tick sp. Bi  
*Misumenia vatia* a spider B  
*Gryllotalpa gryllotalpa* Mole-cricket B  
*Oedipoda germanica* Red-winged grasshopper J  
*Anacridium aegyptium* Egyptian locust L  
*Forficula auricula* Earwig B  
 Caddis fly B (several species at lights)  
*Libelloides coccajus* an ascalaphid J  
*Corizus hyoseyami* a bug P J  
*Lygaeus saxatilis* a ground bug FE  
 Cicada sp. B J  
*Coccus ilicis* a gall insect on kermes oak R L  
*Aquarius najas* a large pond skater Bi  
*Phytomyza ilicis* Holly leaf-miner J  
*Meloe* sp. an oil beetle (larva) L  
*Ocypus olens* Devil's coach-horse L  
*Timarcha tenebricosa* Bloody-nosed beetle F  
*Lamia textor* a longhorn beetle B  
*Cicindela campestris* Tiger beetle B  
*Pyrochroa serraticornis* Cardinal beetle B  
*Carabus nemoralis* a ground beetle L  
*Copris lunaris* a scarab beetle B  
*Oxythyrea funesta* a pollen chafer L  
*Ammophila* sp. a sand wasp B  
*Xylocopa violacea* a carpenter bee B  
*Dasylabris maura* a velvet ant B  
*Diplolepis rosae* Robin's pin-cushion gall L  
*Messor barbara* a large ant L  
*Polistes* sp. a paper wasp B  
*Eumenes* sp. a potter wasp Bi