

The Pontic Alps

Magical Lazistan

A Greentours Tour Report

20th May – 2nd June 2008

Led by Andy Byfield and Kate Clow

20th May Tuesday

All took off on time arriving into Trabzon as scheduled and we transferred quickly to the Horon hotel and retired for the night.

21st May Wednesday

In clear sunshine and with a promised temperature of 26°C, we set off for Sumela Monastery, following the Değirmen Dere valley to Maçka then branching off up the Mereyamana (Mother Mary) valley, where whitewater bounced down its rocky bed between lush hazels and mossy cliffs. The first stop was at our first clump of *Rhododendron ponticum* overhanging the river. As we got out of the bus, a dipper flitted downstream and a copper perched on a rock. Edible plants squeezed into every bit of fertile land – blackberries and wild strawberries, hazels, walnuts, elderberries and *Cornus mas* (the Turks make jam from the berries). We stopped a little later for Kate to reserve lunch, and Hilary spearheaded an advance party marching up the road. While waiting for the garçon, Kate watched a white wagtail admiring itself in the wing mirror of a parked pickup.

At Sumela, we drove past the souvenir stalls up the valley to a stop at the first bridge – the rushing water created a permanent spray which washed over a pair of brimstones and us as we opened the bus door. We walked about 500m into Sumela, passing a ‘kemançı’, a violin player who was serenading passers by with gay dance tunes. Michael spotted sombre tit, and chaffinches outnumbered the robins and blackbirds.

Jean successfully identified several plant species, but we collected specimens of the remainder to hand over to Andy on his arrival. *Muscari armeniacum* was abundant. The first glimpse of the monastery buildings was from the bus, but a new platform made a good base for a view through the telescope; for when you're in the buildings you are unable to appreciate the magnificent façade protected by overhanging rocks. The monastery, which flourished during the Ottoman period but was vacated in the upheavals following the 1st World War, had been badly damaged, but the strongly-coloured frescoes have now been preserved and some buildings reconstructed. Bright yellow wallflowers grew in cracks and house martins wheeled overhead.

A long walk down zigzag paths through the fir forest brought views of Long-leaved Helleborine (*Cephalanthera longifolia*), a green-backed lizard and solomon's-seal hanging over the path. Lunch consisted of soup and trout (no beer), and was followed by a drive to a roadside meadow, home to two *Ophrys* species – *Ophrys cornuta* and *Ophrys caucasica*, both found in full flower. The meadow was much drier than it had been on previous occasions, and the grass higher, showing that the season was well advanced; in fact we became quite hot as we explored the slopes. Other plants between the hazels included hellebores (just past their best), a pink centaurea, pyramidal orchid (*Anacamptis pyramidalis*), *Muscari aucheri* and many pink geraniums of two species. Kate failed to find the *Dictamnus* which had impressed her on an earlier visit, probably because the ground was too dry to encourage flowering.

Samet drove us back to Trabzon and the hotel at 5.30. At 6.30 a few people walked over to the central square where musicians were preparing for a folk music concert. The traditional instruments were interesting, but when the concert eventually started, the over-amplified music and fat singer were far from exciting. The concert continued as we ate dinner in the Horon hotel restaurant, but soon the sounds from outside were replaced by the noise of a televised football match. Andy had by now joined us, so, in view of his local knowledge of lilies, we decided on a slightly early start tomorrow to enable us to drive right over the Zigana pass.

22nd May, Thursday – Zigana Pass

We left at 8.30 in brilliant sunshine and carried on straight up the main road after Maçka to find a turn to the village of Hamsiköy. Crossing the valley floor, we stopped on a dirt road at the base of a damp slope below pine forest. *Dactylorhiza urvilleana* had caught our eyes, along with *Cardamine raphanifolia*. Following a bouncing rivulet upstream, we found *Aquilegia olympica*, and alongside at the base of a bush, our first sight of *Paris incompleta*. A golden pea (*Vicia crocea*) bloomed in profusion and more *Dactylorhiza* scattered the slopes. Further above in a forest clearing was a bird's-nest orchid (*Neottia nidus-avis*).

From this site, we returned to the main road and drove towards the Zigana Pass, chugging steadily up the grades. A wrong turning delayed us a little, but expectations were high as we approached the snow patches gleaming on the horizon. The magnificent inner ranges were capped by gleaming snow and with dark pines clothing the lower slopes. In the foreground, brilliant emerald meadows were punctuated with groups of houses and the occasional spire of a mosque. We gathered our cameras and set off uphill over short turf reminiscent of the Berkshire Downs, but far more floriferous. A black redstart of the *semirufus* race perched on the mosque and a pair of white wagtails courted on a rooftop. The turf was a mixture of yellows and blues, with *Viola altaica* (in both pale blue and lemon forms), our first *Gentiana verna* ssp. *balcanica*, diminutive *Sibbaldia parviflora*, early *Daphne glomerata*, and a fine swathe of *Trollius ranunculinus*, amongst many other plants. A few plants of the endemic *Cyclamen parviflorum* were in flower. After two hours of immersion in this spangled heaven, we made our way down to a picnic lunch with semizotu (purslane), baby tomatoes, fresh strawberries and an exciting fig jam! The descent over the south face led us straight into Scot's-pine forests, but the substorey was so dry that *Orchis pallens* was absent this year. Perseverance paid off when we beat a rival group of German flower-seekers to the draw, and discovered a lush, partly wooded hillside where native turf supported a huge population of cream and purple *Dactylorhiza flavescens*.

Driving down a narrow road adjoining a willow-lined rushing stream, passing banks of monkey orchids and the 'everlasting' pea *Lathyrus rotundifolius* ssp. *miniatus*, we reached the main road.

The return over the pass via the tunnel emphasized the contrast between south and north slopes – the south were dry, scattered with dwarf oak and scrub, in contrast to the lush greens of the north.

Returning to lower levels, our final stop, made as light was beginning to fade, was at the foot of a steep meadow. Hilary made an energetic dash to the top of the hill and soon found our target, the green and brown orchid *Steveniella satyroides*. The Helleborines proved to be a mix of *Cephalanthera longifolia* and *Cephalanthera damasonium*; the *Dactylorhiza* were also a bit confused. We reached the hotel rather late at 7.30, and ate in a meyhane (restaurant with alcohol), where a beer or two washed down some delicious meze and copious quantities of lamb cooked in two huge woks. Check lists were postponed to tomorrow.

23rd May Friday – Yağmurdere

Starting again at 8.30, we drove along the new wide coast road eastwards to Araklı, where we turned south on the Çankaya road. This minor road leading up to a pass at 2200 m runs mainly parallel with the Yağmur (Rain) river, passing through a few unspoiled villages. Below the tree line, the valley is a deep V, with tree-clad slopes and spires of basalt and other igneous rock extrusions. Approaching the tree line, the road rises dramatically over a landslide zone, and then splits. We chose the branch leading towards the pass and Bayburt, and made our way past works for a series of run-of-river dam works, which have spoiled whatever surface the road once had.

Above the treeline, the valley broadened and the road ran as a narrow unsurfaced ledge through grassy slopes dotted with sheep. Our first stop was about 4km below the Salamankaç Geçiti, where we sallied forth and stretched our legs in waterlogged meadows alongside the by now narrow stream, gushing with melt-water. Infertile geology and the early stage of the season meant that the site proved something of a disappointment in floristic terms, but a scatter of *Dactylorhiza euxina* in good flower lined the stream and clumps of non-flowering oriental poppies gave a taste of things to come. Kate and Hilary climbed a bank to find a few ortolan buntings newly arrived on migration. Later, Andy and Kate gamely forded the stream to examine a bank studded with *Muscari armeniacum*, the cowslip *Primula veris* ssp. *columnae*, and the cream-white *Androsace albana*.

Driving back down the narrow road we passed (with difficulty) several lorries loaded with villagers moving cows, bags, baggage and bedsteads up to their summer homes on the yaylas. Lunch was a cheerful picnic under a bandstand-like pavilion alongside the stream, with multiple pots of tea supplied by the village teashop. While we ate, the owner plumbed in a handbasin and supplied it with fresh soap and tissues – just for us! A handsome *Senecio hypochionaeus* stood out against dark rocks, but few of the party were willing to brave the log bridge to take a closer look. A few drops of rain, gusts of wind and peals of thunder heralded a storm – it lasted all of two minutes!

A quick stop on a stabilized block scree downstream yielded the dainty *Arum euxinum*, but the best feature was a vista of the jagged skyline of basalt towers above vast mixed forests of oriental fir and beech – this must be a wonderful sight in autumn. Continuing our journey downstream, we left the bus at the village of Taşgeçit and walked across the imitation (good) ancient ottoman bridge

(complete with arabic inscription), built 49 years ago to replace one washed away in winter storms. The village still boasted a few timber framed buildings, and we strolled along a level(ish) track past sloping hazel groves with abundant *Orchis tridentata* and occasional *Dactylorhiza saccifera*. An *Ophrys apifera* bloomed in a damp tunnel amid Chinese lanterns (*Physalis alkengii*) in flower.

And on down the long and winding road... with a brief stop to admire a cohort of glowing butter-yellow hollyhocks (*Alcea* sp.), set off against a dark basalt road-cutting. With time pressing, we made our final stop alongside the sea, where masses of Feldwegg's Tongue Orchid (*Serapias feldweggiana*) were squeezed, against all odds, onto one of the only headlands to survive the motorway construction machinery. Despite its small size, the headland supported a rich variety of Mediterranean vegetation. After checklists, we ate in a local restaurant and retired to pack for our move tomorrow.

24th May Saturday Day 5 Çağrankaya Yaylası and Genesis Hotel

Leaving Trabzon on the eastbound road, we stopped at a coastal ruined castle on a tiny headland for a final view over the sea; the unseasonably dry weather meant that the vegetation was rather poor. Turning inland along the İyi Dere, we admired the neat tea gardens on the valley slopes and carved from the woodland on the valley floor, an indication of the higher rainfall in more eastern parts. Everyone tried their hand at shearing the tea bushes, under the guidance of a friendly family, but the women didn't want to be photographed. Tea plantations frequently belong to the women, and this family made about 2500 sterling per year from their three annual harvests.

Heading upstream, we found a turning to one of Andy's favourite botanical havens, the yayla of Çağrankaya, which is situated on an east-west ridge separated from the main range by the deep Cimil valley. The ridge, a mixture of granite and basalts with minor peat bogs, supports moorland vegetation above stunning mixed forests with a rich understorey. Rhododendrons feature prominently, with three species represented, including the creamy, low-growing *R. caucasicum* at high altitude.

The previous day's travel had made our group hardened to narrow, steep forest unsurfaced roads with vertiginous drops, so their eyes were on the fabulous views of the snow-clad main range unfolding before us as we hairpinned up the ridge. We walked up a section of road from a spring where we saw the intense blue forget-me-not relative *Omphalodes cappadocica*, and a flock of bee-eaters mewed as they passed overhead. The second stop was spontaneous when our leaders spotted many mats of the fabled *Epigaea gaultherioides* in prime condition alongside the road. With it grew the clubmoss *Lycopodium clavatum*, whose main claim to fame is that ¼ of a tonne is harvested annually for condom manufacture.

Passing through a yayla of mainly old timber houses set in hay meadows we lunched on a high point in the common-land grazing beyond, with *Cyclamen parviflorum*, and species of *Ornithogalum*, *Draba* and *Scilla* decorating the short turf around. Edging the high plateau were rough grey laminated boulder tors, punctuating the open terrain and adding focal points to our landscape photos. Our walk back to the minibus firstly passed a brilliant display of drumstick primrose *Primula auriculata* set amongst *Rhododendron caucasicum* bushes. We then entered the world of transhumance, as we passed villagers who were opening their summer houses in

preparation for the spring festival season. Most people enjoyed the exuberant display of bulbs growing to massive proportions on centuries of cow-shit in the yayla 'gardens', whilst Andy gamely led a hunt for *Woodsia alpina* down a deep crevice below the village.

Mist had risen from the sea, isolating us on an island in a sea of cotton cloud. Time had come to leave this heavenly island, so, driving gingerly down the rough track, we only stopped for more primulas and mountain chiffchaff. A final stop to admire a stunningly lush meadow packed with varicoloured *Dactylorhiza urvilleana* was a fitting end to a brilliant day. Andy was discovered to be devouring wild strawberries behind his notebook while pretending to study specimens.

A short climb alongside the boiling river took us to the Genesis hotel, with wooden bungalows in a sylvan setting, our home for the next two days.

25th May Sunday Ovit Dağı Pass

Mist swirled about the hotel as Andy, Hilary and Michael set off on a pre-breakfast forest walk where they admired huge oriental spruce towering above yellow azalea (*Rhododendron luteum*), which itself towered above the rosettes of the Creeping Lady's-tresses orchid (*Goodyera repens*). When all had breakfasted, we drove up the gradually deteriorating road through Sivrikaya to Ovit Geçidi, stopping briefly to examine the multi-storey beehive shed suspended on a cliff and reached by ladders in order to protect the honey from the bears. A rosefinch whistled at us from the telephone wires.

The snow along the roadside and on the pass was still up to one metre deep, yet exposed patches supported a surprising variety of flowering plants, including *Gentiana verna*, *Corydalis nariniana*, and *Colchicum szovitzii*, but the star plant, found by Jim, was a non-flowering *Centaurea appendicigera* which he found and photographed along the roadside.

Snow finches, shore larks, black and normal redstarts, Radde's accentors and water pipits provided the avian interest.

Dropping down the south side of the pass, we stopped by Ekşioğlu Kazançukur Yayla to botanise and deliver a mysterious package to an old acquaintance of Terry Underhill's. On the eastern roadbank, we climbed past deserted houses to boulder-strewn slopes where new plants included the chunky burgundy *Fritillaria latifolia*, colour co-ordinating with *Daphne mezereum*, which, in spite of the bitter cold gave off its sweet scent. Moving to the western slope, we followed Terry's instructions and climbed to a boulder above the houses. Here, a second fritillary, *Fritillaria caucasica*, was in flower, whilst party members were able to compare *Primula algida* (including albinos) with *Primula auriculata* on the rocks above. A single imperial purple oxlip *Primula elatior* ssp. *meyeri* completed the trio of purple and pink primroses. The best display yet of the soft pink *Colchicum szovitzii* completed the colour scheme.

A passing Golden Eagle approached and perched on the outcrop for a moment before being pursued southwards by a hobby.

We picnicked in a sheltered suntrap in someone's garden near water meadows of *Caltha polypetala* and the turquoise *Scilla armena*.

Moving a few km further south, we explored watermeadows, scree and cliffs in the upper reaches of the raging tributary of the Çoruh. The verdant vegetation was far more advanced, with a good range of borages, including *Solenanthes stamineus*, and the woolly white *Rindera lanata*, and various *Onosma* species. Many plants hadn't reached flowering, including the Oriental Poppy and a large *Cephalaria*. Most tantalizing were the thousands of *Paeonia mascula* ssp. *arietina* just days away from flowering.

Driving backup the pass, the mist rolling over from the north enveloped our vehicle and the snowy slopes. In the evening checklists were followed by an early dinner and most retired early in preparation for the long drive tomorrow.

26th May Monday Day 8

Rain in the night presaged a misty start. Leaving early, we slowly crested the snowbound pass and descended to better weather in the southern rain-shadow. Our first stop was at the castle-topped small town of İspir, where we bought picnic supplies. The narrow and badly-maintained road from here to Yusufeli follows the course of the Çoruh river, switching occasionally from north to south banks. A few kilometres downstream of the town, the party were introduced to the rich flora of the seemingly dry and barren slopes of the Çoruh gorge. Surprisingly, here were a range of poppy species, *Saponaria prostrata*, the upright yellow flowers of *Scutellaria orientalis*, the lacerated pink petals of *Dianthus orientalis* and the first of a number of Çoruh endemics, the deep blue flowered borage *Paracaryum artvinense*. On the far bank, we admired a rock outcrop with a resident blue thrush and overhead an Egyptian vulture whirled against the now blue sky.

From here on, the gorge sides slope down to riverside plots divided by rows of the white-stemmed *Populus uzbekistanica* cv. *afghanica*, where rice, wheat and vines jostle for valuable watered land. Isolated villages of tin-roofed wooden buildings and mosques perch on the slopes amid olives and cherry trees. Dominating the scenery are the magnificent multi-coloured cliffs, screes and gorge sides. Our second stop, by a small area of fenced forestry proved an exceptionally rich mix of wet meadow and dry slope, with the sweet scented *Elaeagnus angustifolia*, and colourful herbaceous species including *Centranthus longifolius*, the two purple sages *Salvia nemorosa* and *Salvia verticillata*, imperial purple *Gladiolus kotschyanus* growing with *Ornithogallum* spp. and *Orchis palustris*. The creamy-white lupin-like *Sophora alopecuroides* and the spiny *Ziziphus* bushes lined the slopes.

Continuing downstream, we passed clump after clump of the endemic *Iris taochia* in fruit, before reaching the first of a series of castles near Yokuşköy. Here, at the boundary of the two provinces, the road disappears altogether and we drove up the stream. At the castle, amongst a diversity of plants we saw a further three Çoruh specialities, creamy white *Alyssum artvinense*, *Bupleurum schistosum* with distinctive perfoliate leaves, and a rather sweet pea, *Chesneya elegans*. Andy forced another stop at Sellukbağları Köprüsü to admire tall *Dactylorhiza umbrosa*; nearby we found the hoy-a-like climber *Periploca graeca*.

Crossing the river to Peterek, we located the castle with difficulty, and lunched under fruiting red cherry trees alongside rice paddies croaking with frogs. Most people climbed to the 14th century Selcuk castle, situated on a volcanic mound commanding wide views of the broad valley. Favourite finds were the glaucous whip-like stems of *Ephedra*, blooming fire-red pomegranate bushes and a tiny *Artemisia fragrans*. Rarities included a small-leaved *Acer divergens* (a Çoruh Gorge endemic) and a single plant of the recently described *Eminium koenenianum*, an autumn flowering aroid with white-spotted leaves.

Although only 10 km from Yusufeli, the road was blocked by herds of cattle led by three generations of stick-wielding, brightly-headscarved Turkish women. Opposing the cattle, from the direction of Yusufeli, a stream of minibuses clogged the narrow road. Our patient driver, Samet, forced to repeatedly pull in to allow minibuses to pass, overtook the same cows several times before we cleared the herd and arrived in Yusufeli. We took a quick stop for multi-flavoured ice-cream before proceeding into the more vertiginous reaches of the gorge. Here we passed a sign marking the site of the proposed and much-hated Yusufeli dam, which will displace 17,000 local people from their land and homes.

A fine roadside flush of the soft green Maidenhair Fern (*Adiantum capillus-veneris*) and the eastern chatterbox orchid *Epipactis veratrifolia* reminded us that plants will suffer too.

A 45 minute wait, with hot tea and the company of a lively group of young Israelis, was enforced by blasting works for the second major dam, the Artvin Barage. Rain spat at us as we climbed the long and tortuous road that has replaced the river-bottom one drowned by the third dam, the Deriner Barage. From the hillside, we could see that the dam, which will rise to about 230 metres, had only reached maybe 50 metres in height above the downstream water level; the destruction is already horrific. Andy criticized the associated planting of False Locust (*Robinia pseudacacia*), which is already proving invasive and uncontrollable.

The Koru hotel was a resounding success and after a pleasant meal we all retired to well deserved rest except for the leaders who gamely burned the midnight oil on checklists, reports and bureaucratic forms.

27th May Tuesday Day 9 – Kafkasör meadows and woods

After breakfast Kate and Andy had to head down to town to shop, so we planned a 9.30 start. By the bus, Andy showed us a plant and invited us to rub the leaves and imbibe its purportedly lemon-strawberry scent – with hands reeking from a dead-fish smell, we discovered that the plant was the stinking goosefoot (*Chenopodium vulvaria*), one of Britain's rarest plants! When wet-wipes failed to obliterate the stink, the curmudgeonly group failed to forgive him.

The morning was spent looking at verdant meadows on the route up to and around Kafkasör, and the afternoon walking through the woods. Our first meadow stop, a group of meadows adjacent to woodland and shaded by apple trees, was rich in orchids and gave a taste of things to come. Here, *Orchis morio* ssp. *picta*, *Dactylorhiza urvilleana* and *Serapias feldweggiana* were locally abundant. The creeping *Viburnum orientale* at the woodland edge was in good flower and grew with the holly *Ilex colchica*. Chaffinches and rosefinches dominated, but flycatcher and wren were also seen.

Driving up to the bullfighting arena at Kafkasör, the party admired the broad straplike leaves of *Galanthus krasnovii* in its only known Turkish locality. A stunning set of undulating meadows were spangled with the hay rattle, *Rhinanthus angustifolius*, with purple pink milkworts in the drier areas and exceptional displays of *Gladiolus kotchyanus* in the wetter spots. Orchids were a big feature of this meadow, with eight species of orchid, as follows: frog orchid (*Coeloglossum viride*), greenish great butterfly orchids (*Platanthera chlorantha*) and the usual abundance of *Dactylorhiza urvilleana*. On one hedgerow was the brick-red pea, *Lathyrus rotundifolius* ssp. *miniatus* and *Paeonia mascula*, this time in seed. The drizzling rain ceased for long enough for us to photograph what, until now, were the best meadows of the trip. Jean was bowled over by the sheer luxuriance of the Adders-tongue Fern (*Ophioglossum vulgatum*). Walking back to the bus, a flock of feeding crossbills caught the attention of the whole party.

We lunched at a tiny restaurant on meatballs or butter-sautéed trout, with fresh salad, accompanied by chocolate buns and tea. With brightening skies, we headed into the dripping spruce and azalea forest, in search of new treasures. We found fine colonies of Herb Paris (*Paris incompleta*), Solomon's seal (*Polygonatum multiflorum*) and a few Long-leaved Helleborines. Driving down to Artvin, we stopped for Red Helleborine (*Cephalanthera rubra*) in full flower under oak, and from here the group walked down past Barbara Cartland-pink *Silene armeria*, the local speciality *Origanum rotundifolium*, the rare local *Campanula pontica*, with deep purple stigmas setting off the dusky mauve bell. Nearby, flowering for the first time on the trip, *Campanula alliariifolia* grew in a small clump of neat heart-shaped leaves and large ivory bells.

Before dinner, we completed our check lists for the past two days in an arbour overlooking the hideous dam works on the mighty but muddy-looking Çoruh river.

28th May Wednesday - Hatila Valley

Kate was up early for a little pre-breakfast bird-watching, seeing black kite over the rubbish tip, a red-backed shrike and a flock of bee-eaters. After breakfast, we drove along a level road high above the moribund dammed river to the entrance to the Hatila Valley National Park. We made our first stop so that Andy could point out the geology and remarkable vegetation, a mix of Mediterranean and Euxine species, of this new habitat. Amongst the Mediterranean species, seen here for the first time, was an abundance of the strawberry tree, *Arbutus andrachne*, and a very disjunct population of Stone Pine (*Pinus pinea*), otherwise only known in Turkey from the Aegean. But we were all eyes for a clump of the sugar-pink *Cephalanthera kurdica*, and the pine-hosted form of mistletoe *Viscum album* ssp. *austriacum*.

Continuing to the gate, we began a slow but steady drive up the incised V of the valley which forms the heart of the National Park. The scenery of the valley is dramatically challenging to one's sense of balance.... A blend of vertical rock faces and outcrops looming out of verdant greenery. The woodlands here are amongst the richest in Turkey, with four species of hornbeam family, Scot's Pine, Oriental Spruce, Sweet Chestnut and lime. We stopped at a series of spots along the narrow unsurfaced road, looking over the intervening void to occasional tiny hamlets of traditional wooden houses clinging to clearings on the opposite slope.

The whole valley is composed of basalt and other igneous rocks, which supply the lush growth with copious nutrients. On the rock faces, two saxifrages occurred in local abundance (*Saxifraga rotundifolia* and *Saxifraga paniculata*), our very own *Gladiolus illyricus* and the white spires of *Ornithogalum narbonense* were a delightful feature of the warmer aspects, but the most glamorous plants were candy-pink *Centaurea woronowii*, the more localized *Centaurea simplicifolia* and *Campanula pontica*, with dusky blue flowers set off by deep indigo stigmas. A pre-lunch walk through damp riverside forest contrasted with these natural rock gardens. Here we saw ‘Victorian’ ferny glades of magnificent *Mattuecia struthiopteris*, Asarabacca (*Asarum europaeum* ssp. *caucasicum*) and the white plumes of astilbe-like *Aruncus dioicus*, in flower for the first time. These forests are effectively temperate rainforests, a far rarer habitat than the tropical ones.

While southern white admirals danced over the river, we ate lunch under a canopy, thoughtfully erected by the National Parks Authority. From here it was a short drive back to a hay meadow and wooden house belonging to a couple of cheerful ladies who invited us to tea. We all squeezed around their table and sampled home-made honey from their wooden hives and cheese from their 16-cow herd, as well as drinking many tulip-glasses of tea from the north side of the range. The house was a traditional verandah’d building with wood-fired stove for baking delicious fresh bread, a neat living room with, despite its remoteness, a TV, and a portrait of Tayyip Erdoğan, our current prime minister, beaming down from the wall. After photos and exchanging addresses, we made a final stop by the riverside to soak in this magical place. Dipper and white and grey wagtails went about their business as we strolled back to our vehicle and set off back to our hotel.

29th May Thursday Artvin to Şavşat and the paeony walk

After a brief delay in Artvin stocking up with picnic food for the next few days, we headed east towards the wilds of the Yalnızçam mountains, the range which separates the Çoruh valley from the high steppe to the south-east

Our first leg-stretching stop was at the village of Dolişhane, where a Georgian church perches above the confluence of the Şavşat and Çoruh rivers. This nicely proportioned church – of dome over transept design – encloses a lofty once-frescoed interior rising to an arcaded dome over squinches. This once-frescoed design made its way westwards as inspiration for the Romanesque churches of the 13th C onwards. Built skillfully of local igneous rocks in buff and liver colours, the exterior boasts tiny reliefs of angels, geometric high relief around the slit windows and various Georgian inscriptions. The dome provided an ideal habitat for nesting crossbills and a surprising array of knapweeds (*Centaurea* spp.). The friendly imam allowed us to explore the church and brought us glasses of cool ayran (a yoghurt drink).

Andy demonstrated the difference between the two Turkish members of the ebony family, *Diospyros*, before leading the party down a steep slope to the village’s graveyard with a view. This area supports a fine montane steppe vegetation with an abundance of species of *Achillea*, *Phlomis* (Jerusalem Sage), *Linum* and *Stipa*, but perhaps the most interesting plant seen was the tiny mistletoe-relative *Arceuthobium oxycedri* that parasitizes the many junipers (*Juniperus oxcedrus*) at this site.

Returning to the river bank, we passed signs indicating the position of two more dams which are destined to be built on the Şavşat branch of the Çoruh, and made a brief stop at an orchid 'n fern cliff with fine *Dactylorhiza umbrosa*. After lunching in Şavşat, heavy rain induced us to suspend exploration and complete our plant lists. Later the cloud cover broke up and most of us set off uphill on an impromptu yomp up to the scrub and forest.

The lower slopes had been extensively chewed, but, reaching a steep valley, Vicky looked upwards to spot a magnificent clump of the rare *Paeonia wittmanniana*, with huge primrose-coloured orbs displayed only for a few fleeting days over fresh green triternate foliage. This rare phenomenon – perhaps numbered in hundreds - was a fine end to a good day. But as we walked down the grassy slopes back to the hotel, we could see snow gently falling on the upper slopes of the pass above us.

30th May Friday – Aktaş Gölü and the plains

Morning dawned but the sun remained invisible – dense mist hung over the wet valley as we gathered our warmest clothes and set off into the gloom. As our bus climbed the pass, we worried about ice on the road and the need for snowchains – a few cm of snow had freshly fallen on the high moorland of Çam Pass at 2640m. Because of the dense mist we headed southwards to the high plains around Ardahan and Çıldır. By the time we reached Ardahan, the sun had pierced blue holes in the canopy, but during our first sorties gusts of wind still chilled us to the bone.

Our first brief stop was to view the ‘tussock-scape’ of *Carex elata* that dominates Pushka Marshes, once a shallow lake. Like us, the birds were lying low in the cool wind, and the party only got a momentary glimpse of a Crane at the far side of the marsh. Marsh harriers and smaller passerines were plentiful, but no terns, no wagtails and only a few ducks showed themselves. We decided to return on a stiller, warmer day.

Travelling further east, we proceeded to the gorge of a tributary of the Kura River, where the layered volcanic rocks formed a background for a dramatically placed medieval castle, Kurt Kalesi (Castle of the Wolf). Walking over aboriginal (never ploughed) steppe, we marveled at the exceptional abundance of *Pulsatilla albana*, mostly in seed, and found the first purple *Iris furcata* tattered by the searing winds. We made a quick retreat to the van.

Driving past a jandarma post, we spotted rose coloured starlings frolicking in the grass and bee eaters on a line above. In front of us, under blue skies with scudding clouds, dappled Aktaş lake extended into the distance with the high peaks of Georgia forming a romantic background.

Birds dominated our next stop on the lakeshore. White pelican, followed by ruddy shelduck and great crested grebe cruised the ruffled waters, while white wing black and Caspian terns wheeled overhead. In the grass, a few *feldegg* wagtails strutted their stuff and a Montagu’s harrier cruised casually by, inspecting the ground.

We ate lunch in the shelter of the local teashop, where everyone was, as usual, bowled over by the ever flowing hospitality - the owner brought his wife’s freshly baked borek to warm us up.

The next stop for *Dactylorhiza osmanica* evolved into yet another bird stop – to watch a peregrine plucking its newly caught prey – a corn bunting. Retracing our steps, we ascended the hill south of Aktaş to a burrow-studded quarry. Kate set up scope to watch the occupants while Andy led an enthusiastic group up the flower-studded slope. These rounded hills over pumice proved hugely rich in plants with an abundance of *Veronica gentianoides*, the *Pulsatilla*, and local colonies of the soft yellow prophet flower, *Arnebia pulchra*. Rings of tufted bright olive green sedge confirmed the existence of the Dwarf Sedge *Carex humilis* in Turkey. The party was awe inspired by the sheer scale of the mountain and plain landscape around, which rendered distance meaningless.

Local wildlife manifested itself with a (grey) red fox while a pair of Montagu's Harriers glided overhead.

In glowing evening light we made a final stop at the edge of the Ardahan forest where native Scot's Pine met buttercup-filled marshland. Protected from the excesses of grazing by a fence, the metallic purple *Iris furcata* put on a particularly good show whilst the spear leaves of *Gladiolus* promised a fine display in a month's time.

As we finally retraced our route up the Çam pass, looking down on Ardahan plain stretched out in the rays of the dying sun, we watched horsemen rounding up their cattle while their women-folk herded the geese homewards. We drove into the chilly darkness of the clouds over the pass and descended to our cosy nest tucked into the hillside.

31st May Saturday – Çam Pass and Ardahan Wetlands

Kate and Samet's attempt at early morning bear viewing ended almost as soon as it had begun – the hotel drive gate was firmly locked and we couldn't wake up the person with the key. Samet went back to bed but Kate strolled the slopes, looking at an early-rising golden eagle with the sun glinting off the white carpal patches. Later two Egyptian vultures also circled above the sunlit treetops as chaffinch, rosefinch and wheatears whistled their early morning songs.

After breakfast, still in brilliant sun, we headed over the pass to the southern slopes of Yalnızçam Dağı, where we split into two groups. The more energetic joined Andy on an extended walk down the alpine pastures whilst the other group went directly to a stream and snowpatch slightly further down the slope. Here, Val saw bluethroats noisily objecting to her presence. Kate, telescope in hand, headed for a rock outcrop and found nesting snow finch and elusive crimson-winged finch. Grandiose displays were the feature of the day – the first exhibit was the large-flowered *Scilla rosenii*, with petals recurved like an *Erythronium*. In some place the *Scilla* was growing with the showy celandine relative *Ranunculus kochii* and the recently described cream-white *Corydalis nariniana*. On deeper soils away from the snow clumps of white *Anemone narcissiflora* formed dense colonies. The plant of the day was *Fritillaria latifolia* in such abundance that it was difficult to move without crushing them. Other good plants included *Doronicum oblongifolium*, and the large mahogany and navy borage *Nonea pulmonarioides*. To pander to Kate's obsession with birds, we picnicked on the roadside opposite a quarry while she observed rock thrush, black redstart and various martins through the scope.

But just below the picnic spot was a dry slope which supported many plants of *Iris caucasica* – many were past their best but we found enough good specimens to satisfy our photographers. Below on the plain, the wet meadows glowed yellow with millions of buttercups reflecting the sun. Taking a minor road to the village of Kazlı köy (goose village), the more intrepid headed out across the marshland, finding good scatters of the turquoise blue *Bellavalia forniculata*, and in the heart of the wetland a few deep-indigo early flowers of the rare *Iris sibirica*. The rest of the group wandered around the village, photographing the process of preparing brickettes of animal dung to be used as fuel during the winter. Stacks of finished work, neatly laid in herringbone patters, adorned the stone walls. Jim, now renamed Cem, chatted with and photographed the old men of the village.

We retraced our route to the main road and over the pass to Kate's infamous bear spot, a dramatic igneous cliff with stunning views of the Karçal Dağları to the North. Kate's attention was seized by a saker which rose from the cliffs and circled over the valley. The flora, ignored up to now by bear-hunters, caught Andy's attention; the first plant of interest was the firework carrot, *Chamaescidium acaule*, but he soon turned to small ferns on the basalt cliffs, where, with Jean, he identified at least one plant of *Woodsia alpina*. The most exciting find was difficult to reach – with difficulty Andy succeeded in retrieving a sample of putative Snowdon Lily, *Lloydia serotina*. If confirmed, this will represent a new addition to the Turkish flora, and as such was an exciting climax to a wonderful day.

1st June Sunday – Pushka Marshes, Şavşat Yaylas

On our way to Pushka Marshes, we left Andy on the bear pass, where he intended to botanise the basalt cliffs for further colonies of *Lloydia*, with its panorama of traditional summer villages, lush meadows and dense *Abies/Picea* forests. His first sortie was into the depths of the treeline scrub, where we have previously glimpsed bears. Amongst the bushes pink *Daphne mezereum*, yellow *Trollius ranunculinus*, and mauve *Geranium sylvaticum* were in flower. Tantalisingly, a single plant of the White Globe Orchid (*Traunsteinera sphaerica*) was still a month away from flowering, but was easily identified by its broad, glaucous foliage. On the cliffs above, Andy found intense turquoise blue *Corydalis alpestris*, orange *Scrophularia cryptantha* and a few plants of the green spleenwort *Asplenium viride*, in addition to the plants seen the previous evening. Meanwhile, Kate and the group made their way to Pushka Marshes, where they selected a high spot with the sun behind them to set up the scope. The cranes were conducting a courtship display in the centre of the marsh, and around them various ducks flew up or landed in the shallow pools. Marsh harriers, a pair of white storks, two hobbys, some ruddy shelducks and many swifts flew over. In the dead growth to the front of the marsh, many male sedge warblers were marking their territory with persistent song, and a couple of beautiful citrine wagtails perched amongst them. While botanizing on the far roadside, Vicky saw a golden eagle and another eagle swooped over the marsh.

On the return to meet Andy, we saw, right at the top of the pass, a black kite, a long-legged buzzard and a common buzzard. Andy had exhausted the possibilities of the Bear Pass, and was happily botanizing down the road. We ate our last picnic lunch with a beer or two on the sunny hotel terrace, overlooking the trout pools where wagtails bobbed. We consulted the hotel owner. Mete, about tiny side roads through the villages we had seen from above, and drove through a throng of happy Sunday picnickers down a dusty track with fabulous views over the main Kaçkar range and

as far west as the Munzur mountains, all unobscured by cloud and sparkling white. Kate and Andy laid out a map so that they could locate the main peaks.

After a brief stop for a few marsh orchids, we moved on to a steep east-facing slope of forest and scree, where especially fine colonies of Long-leaved Helleborine (*Cephalanthera longifolia*) and a smattering of Greater Butterfly Orchids (*Platanthera chlorantha*) flowered in open glades. Gazing down on the villages, we saw an age-old pastoral lifestyle, the Turkish equivalent of terraced Celtic strip lynchets, tiny enclosed sheepfolds and a patchwork of hay meadows. The simple wooden houses were made of hand-cut interlocking planks of local timber without nails and topped with modern corrugated-iron roofs or older chestnut shingles.

Our final stop of the day and of the trip was at a series of sloping, hummocky meadows on the Şavşat road, where an earlier reconnaissance had located a number of botanical treasures that Andy had secreted until the last minute. We first looked at wet areas with *Orchis laxiflora* and *O. coriophora* in early flower, then scampered upwards onto drier slopes where a first for Turkey was a scattering of burnt-tip orchid, *Neotinea (Orchis) ustulata*. As we photographed this diminutive treasure, cuckoos scattered from the trees and a woodpecker scolded. A few marsh fritillary butterflies were breeding, like us enjoying the last rays of the setting sun.

Systematic List Number 1 Plants

SPECIES	DAYS	NOTES
<i>Equisetaceae</i>		
<i>Equisetum arvense</i>	2, 5, 8	
<i>Equisetum ramosissimum</i>	7	
<i>Equisetum telmateia</i>	3, 4, 5, 6, 8, 9	
<i>Pteridophyta</i>		
<i>Ophioglossum vulgatum</i>	3, 8, 10	
<i>Botrychium lunaria</i>	3	
<i>Pteridium aquilinum</i>	4, 5, 8, 9, 12	
<i>Blechnum spicant</i>	5, 6, 8	
<i>Ceterach officinarum</i>	9	
<i>Adiantum cappillus-veneris</i>	2, 3, 4, 7, 9, 10	
<i>Asplenium septentrionale</i>	2, 4, 5, 6, 8, 12	
<i>Asplenium adiantum-nigrum</i>	4, 6, 8, 9, 12	
<i>Asplenium trichomanes</i>	3, 4, 5, 6, 8, 9, 12	
<i>Cystopteris fragilis</i>	3, 5, 6, 10, 12	
<i>Dryopteris felix-mas</i>	2, 3, 4, 5, 6, 8, 9	
<i>Dryopteris dilitata</i>	6, 9	
<i>Athyrium filix-foemina</i>	3, 5, 6, 8, 9	
<i>Matteucia struthiopteris</i>	3, 5, 6, 8, 9	
<i>Polystichum lonchitis</i>	5, 6, 12	
<i>Polypodium vulgare</i>	3, 5, 8, 9	
<i>Polypodium australe</i>	4, 9	
<i>Phyllitis scolopendrium</i>	3, 4, 5, 9	
<i>Selaginella helvetica</i>	9, 12	Very rarely recorded in Turkey with apparently only one recent record. These two records therefore most welcome, from cool shady rocks.
<i>Lycopodium clavatum</i>	5	Trailing along road cuttings in moorland zone at Çağrankaya, with <i>Epigaea gaultherioides</i> . Approximately 0.25 – 0.5 tonnes (dry weight) of this and other lycopods are collected annually for medicinal purposes, and for use in the condom manufacturing industry!
<i>Huperzia selago</i>	5	
<i>Diphasiastrum alpinum</i>	5	
<i>Polystichum aculeatum</i>	6, 10	
<i>Thelypteris limbosperma</i>	5	

<i>Dryopteris affinis</i>	9	
<i>Woodsia alpina</i>	12	This rare British native is very poorly recorded in Turkey, but may prove relatively widespread on alpine basalt / igneous cliffs in NE Turkey.
<i>Pinaceae</i>		
<i>Pinus sylvestris</i>	3, 5, 7, 8, 9, 10, 11, 12	The common conifer on the continental / rain shadow side of the main mountain ridge, extending well over 2000m in altitude. Fine forests near Ardahan.
<i>Pinus pinea</i>	9	A feature of the lower reaches of the Çoruh River gorge, where the species occurs in a low-altitude Mediterranean enclave. Thought native here, and if so a remarkable disjunct population over 1000 km east of their stronghold in the Aegean region of Turkey.
<i>Picea orientalis</i>	2, 3, 4, 5, 6, 8, 9, 12	The common conifer on the wet northern flanks of the eastern Black Sea mountains.
<i>Abies nordmanniana</i>	2, 5, 10, 12	
<i>Cupressaceae</i>		
<i>Juniperus communis</i> ssp. <i>nana</i>	3, 5, 10, 12	The upright form of this species, ssp. <i>communis</i> , is extremely rare in Turkey
<i>Juniperus oxycedrus</i>	2, 7, 9, 10, 12	Superficially looks like our UK native lowland juniper, but separated on number of stomatal rows. Host of the parasitic mistletoe-relative <i>Arceuthobium oxycedri</i> .
<i>Juniperus foetidissima</i>	10	
<i>Juniperus sabina</i>	4	A moorland species with whipcord shots, forming prostrate mats on rocks. One of the better finds on our day in the Yağmurdere valley.
<i>Ephedraceae</i>		
<i>Ephedra major</i>	7, 10	
<i>Fagaceae</i>		
<i>Fagus orientalis</i>	2, 3, 4, 5, 8, 9	<i>Fagus sylvatica</i> is very rare and localised in Turkey, restricted to NW Turkey.
<i>Quercus petraea</i>	2, 3, 8	

<i>Quercus pontica</i>	5	A low growing scrub oak, with large sweet chestnut sized and shaped leaves. Highly distinctive. We saw extensive belts of this scrub at the tree line on the way up to Çağrankaya Yaylası, though identified from last year's leaves. A rather rare and highly distinctive oak.
<i>Castanea sativa</i>	3, 4, 8, 9	
<i>Salicaceae</i>		
<i>Populus tremula</i>	3, 4, 5, 6, 8, 9, 10, 11, 12	
<i>Populus uzbekistanica</i> cv. <i>afghanica</i>	2, 6, 7, 11	This white trunked fastigiate poplar – superficially like a Lombardy Poplar – is the archetypal tree of central Anatolia. All plants are of one sex (male from memory) – all are planted.
<i>Salix alba</i>	2, 3, 4, 7	
<i>Salix caprea</i>	4	
<i>Juglandaceae</i>		
<i>Juglans regia</i>	4, 6, 7, 9	Walnut is possibly native in Turkey, though all trees seen were planted.
<i>Betulaceae</i>		
<i>Betula litwinowii</i>	4, 5, 6, 12	One of five birch species in Turkey
<i>Alnus glutinosa</i>	2, 3, 4, 5, 6, 7, 8, 9, 10	
<i>Corylaceae</i>		
<i>Carpinus orientalis</i>	3, 4, 5, 7, 8, 9	
<i>Ostrya carpinifolia</i>	9	The Hop Hornbeam – with distinctive long dangling fruiting heads. A feature of the species-rich broadleaved forests of the Hatila Valley.
<i>Corylus maxima</i>	2, 3, 4, 5, 8	Turkey is the hazelnut capital of the world – largely produced from the larger fruited <i>C. maxima</i> , not our native <i>C. avellana</i> .
<i>Ulmaceae</i>		
<i>Ulmus glabra</i>	2	

Tiliaceae		
<i>Tilia rubra</i>	9	
Moraceae		
<i>Morus alba</i>	2, 5, 6	
<i>Ficus carica</i>	2, 4, 5, 6, 7, 8, 9, 10	The fig is unquestionably native in Turkey, but it is often difficult to determine if a particular plant is an accidental introduction.
Urticaceae		
<i>Urtica dioica</i>	2, 3, 4, 5, 9	
<i>Parietaria diffusa</i>	7	
Aristolochiaceae		
<i>Asarum europaeum</i> ssp. <i>caucasicum</i>	9	The Asarabacca – wild ‘ginger’ – here in its broad leaved eastern subspecies. In deep, cool shade at the upper end of the Hatila Valley (by the lunch spot)
Chenopodiaceae		
<i>Chenopodium vulvaria</i>	8, 10	Stinking Goosefoot, named for very good reasons. Outside the Artvin Hotel!
Polygonaceae		
<i>Rumex crispus</i>	10	
<i>Rumex scutatus</i>	6, 7	
<i>Rumex obtusifolius</i>	3, 9	
<i>Rumex pulcher</i>	4	
<i>Rumex tuberosus</i>	5	Like <i>R. acetosa</i> , which I don’t think is recorded from Turkey.
<i>Polygonum bistorta</i>	3	We were too early for the fine meadow displays of bistorts in the upper reaches of the valleys.
Phytolaccaceae		
<i>Phytolacca americana</i>	4, 5	
Caryophyllaceae		
<i>Cerastium purpurascens</i>	3, 5	Probably this.

<i>Stellaria holostea</i>	2, 4	
<i>Moehringia trinervis</i>	2, 3	
<i>Herniaria cinerea</i>	11	
<i>Saponaria prostrata calvertii</i>	7	
<i>Silene alba</i>	2?, 8	
<i>Silene italica</i>	2?, 8	
<i>Silene gallica</i>	4	
<i>Silene vulgaris</i>	6, 7, 8	
<i>Dianthus orientalis</i>	7	A distinctive perennial pink of the dry Çoruh River gorge, with characteristic highly lacerated / fimbriated petals. A common Turkish species.
<i>Dianthus calocephalus</i>	4?	Probably this. One of the tall, deep red, capitate species.
<i>Moenchia mantica</i>	4	
<i>Silene armeria</i>	5, 8	A distinctive annual campion with glaucous leaves and intense carmine flowers. On the road down from the Kafkasör meadows.
<i>Silene inflata</i>	9	<i>Silene</i> is a big genus in Turkey, but this species is easily identified by its hugely inflated calyces.
Ranunculaceae		
<i>Helleborus orientalis</i>	2, 3, 4, 8, 9, 10	Two species of hellebore occur in Turkey. This is hugely common across northern Turkey.
<i>Clematis vitalba</i>	8	
<i>Clematis orientalis</i>	2?	
<i>Aquilegia olympica</i>	3, 5, 6, 7, 8, 10	Turkey's only <i>Aquilegia</i> , with jaunty large blue and white flowers.
<i>Pulsatilla albana</i>	11, 12	A key species of the bleak steppes of Ardahan and Çildir. The only Turkish pasque flower.
<i>Anemone narcissiflora</i>	5, 12	Good in one spot at Çağrankaya, excellent on the southern slopes of Çam Gecidi (pass)
<i>Anemone blanda</i> agg.	3, 4	I have added 'agg.' here, as the closely related species <i>A. caucasica</i> occurs in NE Turkey. Are they the same plant?
<i>Ranunculus arvensis</i>	2?	
<i>Ranunculus brachylobus</i>	12	
<i>Ranunculus repens</i>	2?	
<i>Ranunculus ficaria</i>	2?	

<i>Ranunculus kochii</i>	12	A fine lesser celandine relative, near snow on the southern slopes of the Çam Pass.
<i>Caltha polypetala</i>	3, 4, 5, 6, 12	Often treated within the wide variability of <i>C. palustris</i> , our native (UK) kingcup.
<i>Trollius ranunculinus</i>	3, 12	Turkey's only 'globe flower', but with rather flat bright gold flowers. In fine form above the buildings on the Zigana Pass.
<i>Paeonia wittmanniana</i>	10	The wider Caucasus is famous for its yellow peonies, of which the highly localised <i>P. mlokosewitschii</i> is the most famous amongst gardeners. Less well known, but no less beautiful, is <i>P. wittmanniana</i> . Surprisingly, in spite of its large lemon flowers, it was added to the Turkish flora as recently as the 1980s. Above the Laşet Hotel in Rhamnus <i>imeritanus</i> scrub.
<i>Paeonia mascula</i>	6, 8	In bud, in seed – but never in flower! I think we saw two subspecies – <i>ssp. arietina</i> in bud below the Ovit Pass, and <i>ssp. mascula</i> in meadows at Kafkasör.
<i>Consolida orientalis</i>	7	A stunning imperial purple larkspur, formerly extremely abundant as an arable weed, but now becoming distinctly rare. I spotted it from 10,000 metres – or thereabouts – from the plane leaving Ankara.
Cornaceae		
<i>Cornus mas</i>	2, 5, 7, 8, 9	
<i>Cornus sanguineum</i>	2?, 3, 4, 5, 7, 8, 9	
Capparaceae		
<i>Capparis spinosa</i>	7, 10	
<i>Cleome fimbriata</i>	7, 10	
Berberidaceae		
<i>Berberis crataegina</i>	3, 7	
<i>Epimedium pubigerum</i>	3, 4, 5	Two species of <i>Epimedium</i> occur in Turkey. Most attractive is the bright-yellow flowered <i>E. pinnatum</i> <i>ssp. colchicum</i> – named after 'Colchis', land of the Golden Fleece, extending from the Pontic Alps to

		the Caucasus. We saw the altogether plainer <i>E. pubigerum</i> with microscopic buff coloured flowers.
Papaveraceae		
<i>Papaver lateritium</i>	6, 11	
<i>Papaver fugax</i>	7	
<i>Glaucium corniculatum</i>	7	
<i>Chelidonium majus</i>	2/, 8, 9, 10	
Fumariaceae		
<i>Corydalis erdelii</i>	6	
<i>Corydalis nariniana</i>	12?	The pure white plant found on the southern slopes below the Çam Pass was probably this newly described species.

Cruciferae		
<i>Alliaria petiolata</i>	3, 9	
<i>Barbarea vulgaris</i>	3	
<i>Draba hispida</i>	2?, 3?	
<i>Cardamine impatiens</i>	2?	
<i>Cardamine raphanifolia</i>	3, 4, 5, 6	
<i>Hesperis matronalis</i>	6, 7, 11	
<i>Hesperis buschiniana</i>	4?, 6	
<i>Dentaria bulbifera</i>	2, 3, 8	
<i>Capsella bursa-pastoris</i>	2, 3, 4, 11, 12	
<i>Rorippa nasturtium-aquaticum</i>	3, 6	
<i>Draba bruniifolia</i>	3?	
<i>Alyssoides utriculata</i>	9	A low shrubby chasmophyte on rocks in the Hatila Valley, with distinctive swollen fruit.
<i>Arabis caucasica</i>	9	
<i>Thlaspi perfoliatum</i>	3, 4	
<i>Arabis sagittata</i>	4	
<i>Alyssum artvinense</i>	7, 10	A small, cream-white flowered <i>Alyssum</i> , endemic to the Çoruh River Gorge
<i>Sobolewsia clavata</i>	3	
<i>Erysimum alpestre / ibericum</i> agg.	2, 3, 4, 6	
Crassulaceae		
<i>Sempervivum minus</i>	2, 6?	

Saxifragaceae		
<i>Saxifraga paniculata</i>	2, 9	
<i>Saxifraga rotundifolia</i>	2?, 9, 12	
<i>Saxifraga cymbalaria</i>	2, 3, 4, 9	
<i>Chrysosplenium oppositifolium</i>	2?	
Rosaceae		
<i>Geum urbanum</i>	2, 3, 4, 9	
<i>Geum rivale</i>	12	
<i>Aremonia agrimoides</i>	2?, 3	
<i>Poterium muricata</i>	4	
<i>Potentilla crantzii</i>	3, 5, 6, 12	
<i>Potentilla micrantha</i>	3, 5	
<i>Potentilla erecta</i>	5	
<i>Sibbaldia parviflora</i>	3, 5, 6, 12	
<i>Rosa canina</i>	2, 4, 5, 7, 8, 9, 10	
<i>Rosa pimpinellifolia</i>	6, 11, 12	
<i>Fragaria vesca</i>	2, 4, 5, 6, 8, 12	
<i>Aruncus dioicus</i>	5, 6, 8, 9	
<i>Cotoneaster nummularia</i>	6, 10, 11, 12	
<i>Pyracantha coccinea</i>	10	
<i>Mespilus germanica</i>	4, 7, 8	
<i>Prunus laurocerasus</i>	2, 3, 5	
<i>Prunus avium</i>	10	
<i>Prunus padus</i>	10	
<i>Sorbus aucuparia</i>	4, 5	
<i>Sorbus torminalis</i>	8, 9	
<i>Rubus caesius</i>	2	
<i>Rubus idaeus</i>	3, 6, 10	
<i>Rubus fruticosus</i> agg.	2, 3, 4	
<i>Potentilla anserina</i>	11, 12	
<i>Potentilla fruticosa</i>	12	A scatter of bushes on raised, well-drained ground in the Ardahan Plain marshes
<i>Crataegus monogyna</i>	2, 3, 8	
<i>Alchemilla</i> agg.	5, 6, 10, 11, 12	
<i>Duchesnea indica</i>	5	
<i>Filipendula vulgaris</i>	8	
Resedaceae		
<i>Reseda luteola</i>	7	

Fabaceae		
<i>Robinia pseudacacia</i>	2, 3, 4, 5, 7, 9, 10	Introduced into Turkey, widely planted (including on most of the new roads around the Artvin dams), but now naturalising and causing major problems to local vegetation.
<i>Sophira alopecuroides</i>	7	
<i>Vicia cracca</i>	3, 4, 7, 8	
<i>Vicia crocea</i>	3	A handsome tall rich orange flowered pea, looking superficially very similar to <i>Lathyrus aureus</i> .
<i>Vicia sepium</i>	3	
<i>Vicia sativa</i>	4	
<i>Lathyrus pratensis</i>	3, 4, 12	
<i>Lathyrus rotundifolius</i> ssp. <i>miniatus</i>	3, 8, 9	A handsome 'everlasting' large perennial pea, with brick-red flowers.
<i>Lathyrus venetus</i>	3, 8	Very closely related to <i>L. vernus</i> .
<i>Lathyrus laxiflorus</i>	2, 3, 5, 8, 9	
<i>Lathyrus roseus</i>	12	A distinctive upright bright pink flowered pea on road verge above Laşet Hotel.
<i>Melilotus officinalis</i>	7	
<i>Lotus corniculatus</i>	5, 8, 9	
<i>Lotus suaveolens</i>	4	<i>L. suaveolens</i> is a synonym of <i>L. hispidus</i> . Poorly recorded in Turkey, but probably not uncommon along the Black Sea and Aegean coasts.
<i>Medicago arabica</i>	5, 9	
<i>Medicago polymorpha</i>	4	
<i>Medicago sativa</i>	7	
<i>Medicago lupulina</i>	7	
<i>Doronicum pentaphyllum</i>	8,9	
<i>Trifolium resupinatum</i>	4	
<i>Trifolium dubium</i>	7	
<i>Trifolium campestre</i>	4, 5, 7, 8, 9	
<i>Trifolium arvense</i>	4, 7, 9	
<i>Trifolium pratense</i>	2, 3, 4, 5, 6, 7, 8, 9	
<i>Trifolium repens</i>	3, 5, 7, 8, 9	
<i>Trifolium micranthum</i>	4	
<i>Trifolium glomeratum</i>	4, 5, 9	
<i>Trifolium striatum</i>	4, 5	
<i>Trifolium scabrum</i>	5	
<i>Coronilla orientalis</i>	2, 4, 8	

<i>Coronilla varia</i>	7, 9	
<i>Colutea armena</i>	7	
<i>Coronilla securiaga</i>	2	
<i>Psoralea acaulis</i>	5, 6, 8	A distinctive legume with rugose, dark green trifoliate leaves (rather strawberry like), and globose heads of cream-white flowers. Good on the road up to Çağrankaya Yaylası.
<i>Chesneya elegans</i>	7	A handsome pea relative with pale yellow flowers. A speciality of the Çoruh River Gorge.
<i>Chamaecytisus hirsutus</i>	8, 10, 12	
<i>Pisum sativum</i>	9, 10	
Oxalidaceae		
<i>Oxalis acetosella</i>	2, 3, 5, 6, 8, 9	An extraordinary, bright pink form of (apparently) this plant occurs in the scrub below the basalt cliffs to the north of the Çam Pass (where we looked for bears). It deserves further study – I can find no reference to it in any book.
<i>Oxalis corniculata</i>	5	
Geraniaceae		
<i>Geranium asphodeloides</i>	2?, 8	
<i>Geranium pyrenaicum</i>	2, 3, 4, 9	
<i>Geranium robertianum</i>	2, 4, 8, 9	
<i>Geranium purpureum</i>	9	
<i>Geranium lucidum</i>	9	
<i>Geranium columbinum</i>	8, 9	
<i>Geranium rotundifolium</i>	5, 9	
<i>Geranium molle</i>	2?, 9	
<i>Geranium sanguineum</i>	3	
<i>Geranium tuberosum</i>	6	
<i>Geranium sylvaticum</i>	12	
Zygophyllaceae		
<i>Peganum harmala</i>	7	
Linaceae		
<i>Linum bienne</i>	2	

Linum austriacum	3, 6, 10	
Euphorbiaceae		
Euphorbia falcata	7	
Euphorbia peplus	2	
Euphorbia rigida	8, 9, 10	
Andrachne telephioides	7	
Lythraceae		
Lythrum salicaria	7	

Rutaceae

Haplophyllum armenum	7, 10	
Polygalaceae		
Polygala major	2	
Polygala alpestre	7, 12	
Polygala anatolica / major	3, 4, 5, 6, 7, 8, 9, 10, 12	
Aceraceae		
Acer campestre	4, 8, 9, 10	
Acer platanoides	2?	
Acer cappadocicum	2, 4, 5, 8, 9, 10	
Acer divergens	7	A distinctive, small maple with three-lobed leaves. Largely confined to the Çoruh River Gorge.
Acer trautvetteri	10	
Anacardiaceae		
Rhus coraria	7, 9, 10	In Turkey the bark of the stems or roots are dried and made into a condiment. Closely related to the stag's-horn sumach of gardens.
Cotinus coggygria	7, 9, 10	Common on the dry slopes of the Çoruh River Gorge. Red leaved forms are common in gardens.
Loranthaceae		
Viscum album austriacum	9	On Pinus near mouth of the Hatila Valley.
Arceuthobium oxycedri	8	Abundant on Juniperus oxycedri in

		graveyard at Dolışhane (near the Georgian church). Like a miniature mistletoe.
Celastraceae		
<i>Euonymus latifolius</i>	2?, 8	
Balsaminaceae		
<i>Impatiens noli-tangere</i>	2?, 9	
Buxaceae		
<i>Buxus sempervirens</i>	4, 5, 9	Small box woods are a feature of the rivers draining the northern flanks of the Pontic Alps, and the species is particularly abundant here on river cliffs.
Rhamnaceae		
<i>Rhamnus cf. alaternus</i>	2?	
<i>Rhamnus imeritanus</i>	8, 10	A distinctive <i>Rhamnus</i> with large, strongly ribbed leaves. Only found in the wider Caucasus. Fine and forming monospecific stands of scrub on screes about the Laşet Hotel (with <i>Paeonia wittmanniana</i>)
<i>Rhamnus pallasii</i>	7, 10	Strange small twiggy bush with distinctive heart-shaped fruit. A feature of dry scrub on path to Peterek Castle in the Çoruh River Gorge.
<i>Paliurus spina-christi</i>	7, 9, 10	
<i>Frangula alnus</i>	4, 8	
<i>Ziziphus lotus</i>	7	Dry scrub in Çoruh Valley – closely related to <i>Paliurus</i> , but with distinctive zigzagging stems.
Vitaceae		
<i>Vitis vinifera</i>	2?, 4, 9, 10	Widespread in Turkey, but the true distribution of the vine is difficult to ascertain.
Elaeagnaceae		
<i>Eleagnus angustifolius</i>	7	A narrow leaved <i>Eleagnus</i> , with silver leaves (covered in lepidote scales). The flowers are insignificant and yellow – but

		give out a powerful and distinctive sweet scent.
<i>Hippophae rhamnoides</i>	4, 7	
Staphyleaceae		
<i>Staphylea pinnata</i>	2?, 4	A low suckering woodland shrub, with distinctive pinnate – ash-tree like – leaves, and dangling clusters of white flowers. These are followed by inflated seed pods.

Malvaceae		
<i>Malva parviflora</i>		
<i>Alcea calvertii</i>	4?	A yellow hollyhock near the mouth of the Yağmurdere river, on igneous roadside cliffs. Possibly this??
<i>Lavatera cretica</i>	5	
Violaceae		
<i>Viola arvensis</i>	7, 11	
<i>Viola sieheana</i>	3, 4, 5, 6	
<i>Viola altaica</i>	3	The fine yellow or blue mountain pansy in the turf at Zigana Pass.
<i>Viola kitaibeliana</i>	3, 11	In huge quantity (locally) within pasture on the south side of the Zigana Pass.
Thymelaeaceae		
<i>Daphne glomerata</i>	3, 12	In early flower on the Zigana Pass.
<i>Daphne pontica</i>	3, 4, 5, 6, 8	Equivalent to our <i>D. laureola</i> – an evergreen shrub to c. 1 metre with spidery green flowers. In forests, common.
<i>Daphne mezereum</i>	6	In good flower in boulder scree to the south of the Ovit Pass. Smelling sweetly, in spite of the bitterly cold weather!
Guttiferae		
<i>Hypericum bupleuroides</i>	2?	A distinctive and characteristic plant of the northern flank of the Pontic Alps, with perfoliate leaves.
<i>Hypericum orientale</i>	8	
<i>Hypericum androsaenum</i>	2?, 4, 5	
<i>Hypericum scabrum</i>	7	

Cistaceae		
<i>Cistus salviifolius</i>	2, 4, 5	
<i>Cistus incanus</i>	2, 4, 5, 8, 9	
<i>Helianthemum nummularium</i>	3, 4, 7, 9	
Tamaricaceae		
<i>Tamarix smyrniensis</i>	7	
Cucurbitaceae		
<i>Bryonia cretica</i>	7	
Punicaceae		
<i>Punica granatum</i>	7, 10	

Onagraceae		
<i>Epilobium montanum</i>	2?	
<i>Chamaenerion angustifolium</i>	2?	
Araliaceae		
<i>Hedera colchica</i>	2?, 4, 5, 8, 9	
<i>Hedera helix</i>	2, 5, 9	
Apiaceae		
<i>Sanicula europaea</i>	2?, 3, 4, 8, 9	
<i>Scandix pecten-veneris</i>	3	
<i>Chamaescidium acaule</i>	6, 12	A distinctive alpine umbellifer with flattened umbels of yellow-green flowers adpressed to the ground.
<i>Seseli petraeum</i>	2?, 4	
<i>Prangos ferulaceum</i>	12?	
<i>Anthriscus sylvestris</i>	4, 5, 9	
<i>Pimpinella saxifraga</i>	8	
<i>Bupleurum schistosum</i>	7	A speciality of the Çoruh River Gorge.
<i>Bupleurum falcatum</i>	3	
<i>Eryngium campestre</i>	3, 4, 7	
<i>Eryngium giganteum</i>	3, 4, 6, 7, 12	A distinctive biennial sea- holly, common in drier parts of the mountains.
<i>Torilis nodosa</i>	9	
<i>Heracleum antasiaticum</i>	2?	

<i>Heracleum sosnowskyi / platytaenium</i>	4	
<i>Falcaria vulgaris</i>	7	
Ericaceae		
<i>Arbutus andrachne</i>	5, 9	
<i>Rhododendron caucasicum</i>	3, 5, 6, 12	The common low-growing rhododendron above the tree line. With cream white flowers.
<i>Rhododendron luteum</i>	2, 3, 4, 5, 6, 8, 9, 12	The deciduous, yellow-flowered azalea, common throughout the mountains.
<i>Rhododendron ponticum</i>	2, 3, 4, 5, 6, 8, 9	
<i>Erica arborea</i>	4, 5	
<i>Vaccinium arctostaphylos</i>	5, 8	
<i>Vaccinium myrtillus</i>	3, 5	
<i>Vaccinium uliginosum</i>	5	Çağrankaya Yaylası
<i>Epigaea gaultherioides</i>	5	In fine flower along road banks and in moorland on approach to Çağrankaya Yaylası.
Primulaceae		
<i>Primula algida</i>	5, 6	Diminutive primrose, like our Bird's-eye Primrose (<i>P. farinosa</i>)
<i>Primula auriculata</i>	3, 5, 6, 12	A drumstick primrose, somewhat like the garden <i>P. denticulata</i> .
<i>Primula elatior pallasii</i>	10, 12	
<i>Primula elatior ssp. meyeri</i>	6	Rich purple flowered oxlip, found in flower south of Ovit Pass.
<i>Primula veris columnae</i>	3, 4, 5, 6	
<i>Primula veris ssp. megacalyx</i>	11, 12	
<i>Primula vulgaris ssp. vulgaris</i>	3	Yellow-flowered.
<i>Primula vulgaris ssp. sibthorpii</i>	8	Pink-flowered.
<i>Primula megasaeifolia</i>	5	Distinctive round leaved primula on shady banks on road up to Çağrankaya. <i>Megasaea</i> was the old name for <i>Bergenia</i> .
<i>Androsace albana</i>	3, 4, 12	
<i>Androsace armeniaca ssp. armeniaca</i>	11, 12	
<i>Cyclamen coum</i>	2, 3, 8, 9	The common cyclamen in the area, but finished flowering.
<i>Cyclamen parviflorum var. parviflorum</i>	2?, 3, 5	An alpine cyclamen related to <i>C. coum</i> , found in early flower at Zigana Pass.

<i>Cyclamen parviflorum</i> var. <i>subalpinum</i>	6	The lower altitude form of this endemic species.
<i>Anagallis arvensis</i>	2?, 5, 9	
<i>Anagallis foemina</i>	10	
Ebenaceae		
<i>Diospyros lotus</i>	7, 8, 9, 10	Trabzon 'date', native to this area.
<i>Diospyros kaki</i>	10	Persimmon, not native to Turkey.
Aquifoliaceae		
<i>Ilex colchica</i>	8, 9	
Oleaceae		
<i>Fraxinus excelsior</i>	2, 4, 9, 10	
<i>Phillyrea latifolia</i>	2, 4, 5	
<i>Laurus nobilis</i>	5	
<i>Jasmiium fruticans</i>	10	
Gentianeaceae		
<i>Gentiana pyrenaica</i>	3, 6	
<i>Gentiana verna pontica</i>	3, 6, 12	
<i>Gentiana aesclepedia</i>	3, 6, 8, 9	Out of flower, flowering in the late summer.
<i>Gentiana septemfida</i>	3, 6	Not flowering
<i>Swertia iberica</i>	8	Not flowering
Asclepiadaceae		
<i>Vinca herbacea</i>	7, 10	
<i>Vincetoxicum fuscatum</i>	2	
<i>Cynanchum acutum</i>	7	
<i>Trachomitum venetum</i>	7	
<i>Periploca graeca</i>	5, 7, 9	
Rubiaceae		
<i>Rubia peregrina</i>	2?, 4	
<i>Sherardia arvensis</i>	5	
<i>Asperula orientalis</i>	2?	
<i>Asperula taurica</i>	2?, 3, 9	
<i>Galium odoratum</i>	2?, 3, 8, 10, 12	
<i>Galium aparine</i>		
<i>Cruciata laevipes</i>	3, 4, 6	

<i>Galium mollugo</i>	9	
Convolvulaceae		
<i>Convolvulus arvensis</i>	5, 7, 8	
<i>Calystegia sylvatica</i>	4, 5	
<i>Convolvulus holosericeus</i>	7, 10	
Boraginaceae		
<i>Nonea pulmonarioides</i>	12?	
<i>Nonea intermedia</i>	11	
<i>Trachystemon orientale</i>	3, 9	
<i>Brunnera macrophylla</i>	8	
<i>Cynoglossum montanum</i>	3, 9	
<i>Lithospermum purpureocaeruleum</i>	2?, 5, 7	
<i>Lithospermum arvense</i>	4, 11, 12	
<i>Echium vulgare</i>	3, 4, 7, 10	
<i>Echium russicum</i>	11	
<i>Omphalodes cappadocicum</i>	5	Bright blue perennial 'forget-me-not', seen on road up to Çağrankaya.
<i>Symphytum asperum</i>	3, 6, 9	
<i>Symphytum grandiflorum</i>	8	
<i>Myosotis alpestris</i>	3, 6, 7, 12	
<i>Myosotis arvensis</i>	2	
<i>Anchusa azurea</i>	7	
<i>Alkanna cordifolia</i>	9	
<i>Arnebia pulchra</i>	11, 12	
<i>Cerinthe glabra</i>	3, 6	
<i>Rindera lanata</i>	6	Seen in meadows half way between Ovit Pass and İspir.
<i>Solenanthes stamineus</i>	6	Seen in meadows half way between Ovit Pass and İspir.
<i>Paracaryum artvinense</i>	7, 10	A intense blue flowered Boraginaceae, endemic to the Çoruh River Gorge.
Labiatae		
<i>Ajuga orientalis</i>	3, 4, 6, 11, 12	
<i>Ajuga genevensis</i>	10	
<i>Ajuga reptans</i>	3, 6, 8	
<i>Ajuga laxmannii</i>	7	
<i>Teucrium polium</i>	7, 10	
<i>Prunella vulgaris</i>	8, 10	

<i>Scutellaria albida</i>	2?	
<i>Scutellaria orientalis</i> agg.	7, 12	
<i>Origanum rotundifolium</i>	7, 8, 9, 10	Common in dry scrub and on rocks & road sides in the Çoruh Gorge, where it is something of a speciality.
<i>Mentha longifolia</i>	2, 3, 12	
<i>Origanum vulgare</i>	3	
<i>Marrubium parviflorum</i>	10?, 12?	
<i>Lamium galactophyllum</i>	3	
<i>Lamium gundelsheimeri</i>	2?, 4?	
<i>Lamium album</i>	6, 12	
<i>Phlomis russeliana</i>	4	
<i>Phlomis armeniaca</i>	10?	
<i>Salvia ceratophylla</i>	7	
<i>Salvia verticillata</i>	7	
<i>Salvia nemorosa</i>	7	
<i>Salvia sclarea</i>	10	
<i>Stachys sylvatica</i>	2?, 7	
<i>Ziziphora clinopodioides</i>	7	
Solanaceae		
<i>Hyoscyamus niger</i>	3, 10, 11	
<i>Hyoscyamus reticulata</i>	6, 7	
<i>Atropa belladonna</i>	3	
<i>Physalis ahlkengi</i>	4, 9	
Scrophulariaceae		
<i>Linaria genistifolia</i>	9	
<i>Parentucellia viscosa</i>	4	
<i>Scrophularia chrysantha</i>	2?, 5, 6	
<i>Scrophularia umbrosa</i>	4	
<i>Scrophularia kotschyana</i>	2?	
<i>Scrophularia peregrina</i>	10?	
<i>Veronica officinalis</i>	8	
<i>Veronica beccabunga</i>	2?, 8	
<i>Veronica filiformis</i>	2?, 3, 8	
<i>Veronica gentianoides</i>	3, 4, 5, 6, 11, 12	Fine on Zigana Pass and Çam Pass
<i>Melampyrum arvense</i>	7	
<i>Rhinanthus angustifolius</i>	3, 4, 5, 6, 7, 8	
<i>Pedicularis caucasica</i>	3	
<i>Pedicularis condensata</i>	3	

<i>Pedicularis wilhelmsiana</i>	4, 6, 12	
<i>Pedicularis pontica</i>	3	
<i>Digitalis ferruginea</i>	3, 4	
Lentibulariaceae		
<i>Pinguicula balcanica</i>	6	
Orobanchaceae		
<i>Orobanche ramosa</i>	7	
Morinaceae		
<i>Morina persica</i>	7, 10	
Globulariaceae		
<i>Globularia trichosantha</i>	3, 6	
Plantaginaceae		
<i>Plantago lanceolata</i>	2?, 7, 9, 10	
<i>Plantago major</i>	2?, 6, 9	
<i>Plantago anatolica</i>	11	
Caprifoliaceae		
<i>Sambucus ebulus</i>	2, 3, 4, 9, 10	
<i>Sambucus nigra</i>	9	
<i>Viburnum orientalis</i>	8	
<i>Viburnum lantana</i>	2?, 6	
Valerianaceae		
<i>Valeriana alliarifolia</i>	3, 4, 8	
<i>Centranthus longifolius</i>		
<i>Valerianella dentata mixta</i>	7	
Dipsacaceae		
<i>Dipsacus laciniatus</i>	2?	
Datisceae		
<i>Datisca cannabina</i>	10	

Campanulaceae

<i>Campanula betonicifolia</i>	2	
<i>Campanula betulifolia</i>	2, 9	
<i>Campanula pontica</i>	8, 9, 10	
<i>Campanula macrochlamys</i>	2?	
<i>Campanula alliariifolia</i>	8, 9	
<i>Campanula tridentata</i>	3, 12	
<i>Campanula aucheri</i>	11?	
Asteraceae		
<i>Bellis perennis</i>	2, 4, 9	
<i>Tussilago farfara</i>	3, 6, 9	
<i>Petasites albus</i>	3, 4, 5, 6	
<i>Artemisia fragrans</i>	7	
<i>Achillea schiskinii</i>	2?	
<i>Achillea biserrata</i>	8, 9	
<i>Doronicum oblongifolium</i>	12	South side of Çam Pass, a speciality of the site.
<i>Anthemis pectinata</i> ssp. <i>marschalliana</i>	12	
<i>Anthemis tinctoria</i>	8, 9, 10	
<i>Cirsium hypoleucum</i>	2?	
<i>Carduus pycnocephalus</i>	7, 10	
<i>Jurinella moschus</i> ssp. <i>pinnatisecta</i>	6	
<i>Senecio hypochionaceus</i>	4	Rocks in Yağmurdere Valley, at lunch site.
<i>Senecio vernalis</i>	7	
<i>Centaurea appendicigera</i>	6	Ovit Pass
<i>Centaurea hypoleuca</i>	9?	
<i>Centaurea simplicicaulis</i>	9	Rocks in Hatila Valley
<i>Centaurea woronowii</i>	2, 9?	
<i>Centaurea carduiformis</i>	10	
<i>Centaurea pecho</i>	8	
<i>Taraxicum officinale</i>	2?	
<i>Xanthium strumarum</i>	7	
Juncaginaceae		
<i>Triglochin maritima</i>	11	
Araceae		
<i>Arum euxinum</i>	4	

<i>Eminium koenenianum</i>	7	The spotted leaved <i>Eminium</i> on the path up to Peterek Castle was probably this. It is endemic to the Çoruh Gorge.

Liliaceae

<i>Smilax excelsa</i>	2?, 4, 8	
<i>Ruscus aculeatus</i>	4, 5, 9	
<i>Ruscus colchicus</i>	2?, 6	
<i>Asparagus officinalis</i>	7	
<i>Polygonatum orientale</i>	3, 4	
<i>Polygonatum multiflorum</i>	8, 9	
<i>Polygonatum verticillatum</i>	6, 12	
<i>Scilla autumnalis</i>	4	
<i>Scilla bifolia</i>	6	
<i>Scilla winogradowii</i>	5	
<i>Scilla rosenii</i>	12	Beautiful, on south side of Çam Pass
<i>Scilla monanthos</i>	5	
<i>Scilla sibirica</i> ssp. <i>armena</i>	6, 12	
<i>Ornithogalum pyrenaicum</i>	7	
<i>Ornithogalum narbonense</i>	7, 9	
<i>Ornithogalum oligophyllum</i>	5	
<i>Muscari armeniacum</i>	2, 3, 4, 5, 6, 7, 8, 12	
<i>Bellevalia forniculata</i>	12	Marshes on Ardahan Plain
<i>Bellevalia pycnantha</i>	12	
<i>Lilium kesselringianum</i>	10, 12	
<i>Lilium monadelphum</i>	3	
<i>Lilium ponticum</i>		
<i>Fritillaria latifolia</i>	6, 12	Smallish numbers on south side of Ovit Pass; in stunning quantity south of Çam Pass
<i>Fritillaria caucasica</i>	6	A few plants south of Ovit Pass
<i>Gagea fistulosa</i>	5, 6	
<i>Gagea glacialis</i>	5, 6	
<i>Lloydia serotina</i>	12	On basalt cliffs on the north side of Çam Pass. Whilst it has been recorded in the Caucasus before, this record represents the first for Turkey.
<i>Veratrum album</i>	3, 5, 12	
<i>Colchicum szovitsii</i>	3, 6, 12	The only spring-flowering <i>Colchicum</i> that we saw (eg south of Ovit Pass) and one of a handful in Turkey (most are autumn performers).

<i>Paris incompleta</i>	3, 8, 10	Fine in woodland on north side of Zigana Pass. Turkey's only <i>Paris</i> species. Why it should be incomplete, I don't know!
Amaryllidaceae		
<i>Galanthus krasnovii</i>	8	In leaf only.
Iridaceae		
<i>Iris pseudacorus</i>	8	
<i>Iris sibirica</i>	12	Marshes in the Ardahan Plain.
<i>Iris germanica</i>	2	
<i>Iris taochia</i>	7	
<i>Iris furcata</i>	11	Good on pass between Çıldır and Aktaş Lake; and at edge of pine forests east of Putka Lake
<i>Iris caucasica</i>	7, 12	
<i>Crocus arius</i>	3	
<i>Gladiolus kotschyanus</i>	7, 8, 11	
<i>Gladiolus italicus</i>	9	
Orchidaceae		
<i>Listera ovata</i>	3, 8	
<i>Neottia nidus-avis</i>	3, 8	
<i>Goodyera repens</i>	6	In <i>Abies</i> forest behind Genesis Hotel
<i>Cephalanthera kurdica</i>	9	Single clump by track between Artvin and mouth of Hatila Valley
<i>Cephalanthera rubra</i>	8, 9	Fine between Kafkasör and Artvin
<i>Cephalanthera longifolia</i>	2, 3, 4, 8	
<i>Cephalanthera damasonium</i>	3, 4, 9	
<i>Epipactis veratrifolia</i>	7	In <i>Schoenus nigricans</i> - <i>Adiantum capillus-veneris</i> flushes by road in Çoruh Gorge.
<i>Epipactis helleborine</i>	8	
<i>Limodorum abortivum</i>	8, 9	A few fine plants in Hatila Valley, under <i>Quercus</i> .
<i>Platanthera chlorantha</i>	3, 6, 8	
<i>Coeloglossum viride</i>	8	
<i>Ophrys caucasica</i>	2	
<i>Ophrys cornuta (oestrifera)</i>	2, 3	
<i>Ophrys apifera</i>	4, 9	
<i>Serapias feldwegiana</i>	4, 5, 8	Fine on the coast, and in meadows at

		Kafkasör
<i>Traunsteinera sphaerica</i>	11	One plant, in leaf only
<i>Anacamptis pyramidalis</i>	2, 4	
<i>Gymnadenia conopsea</i>	8	
<i>Steveniella satyrioides</i>	3	
<i>Orchis coriophora</i>	13	
<i>Orchis tridentata</i>	2, 3, 4	
<i>Orchis ustulata</i>	12	Meadows between Şavşat and Laşet Hotel. New to TurkeyH
<i>Orchis simia</i>	3	
<i>Orchis picta</i>	8	
<i>Orchis mascula/pinetorum</i>	3, 8	
<i>Orchis pallens</i>	5	
<i>Orchis laxiflora</i>	8	
<i>Dactylorhiza flavescens</i>	3, 8	
<i>Dactylorhiza saccifera</i>	4	
<i>Dactylorhiza urvilleana</i>	2, 3, 4, 5, 8	
<i>Dactylorhiza euxina euxina</i>	3, 4, 6	
<i>Dactylorhiza euxina markowitsii</i>	4	
<i>Dactylorhiza osmanica</i>	11, 12	
<i>Dactylorhiza umbrosa</i>	7, 10	
Dioscoreaceae		
<i>Tamus communis</i>	3, 4, 8	
Juncaceae		
<i>Luzula spicata</i>	12	
Cyperaceae		
<i>Carex tomentosa</i>	7, 8	
<i>Carex otrubae</i>	7	
<i>Carex pallescens</i>	8	
<i>Carex hirta</i>	8	
<i>Blysmus compressus</i>	8	
<i>Carex muricata</i>	8	
<i>Carex ornithopoda</i>	4	
<i>Carex humilis</i>	11	Pass between Çıldır and Aktaş Lake, in abundance. New to Turkey.
Poaceae		
<i>Bromus tectorum</i>	7	

<i>Saccharum ravennae</i>	7, 10	Large, pampas-grass like plant in damp places in Çoruh Gorge. Perhaps Turkey's largest grass after <i>Arundo</i> .
<i>Danthonia decumbens</i>	8	
<i>Cynosurus echinatus</i>	8	
<i>Phleum alpinum</i>	6	
<i>Bromus tomentellus</i>	11	