

The Tulips of the Tien Shan

Spring in Heaven

A Greentours Trip Report

13th – 26th April 2013

Led by Vladimir Kolbintsev & Kurt Vickery

The various members of the group met up for the trip without a hitch except for Kurt and Diana R's unexpected extra altitude training: going up and down the stairs several times with a faulty boarding pass!

Kapchagai

We set off from our comfortable hotel on our first Tulip foray. Today it was to the dam area of the enormous Kapchagai lake some 80 km north of Almaty. Before we knew it, we had arrived. The first port of call on this trip is always for the stunning carmine and yellow nominate form of *Tulipa albertii*. The location for it here is a rocky outcrop overlooking the lake. We got out of the minibus and scanned the hillside eagerly with our binoculars. We immediately caught sight of the yellow goblets of *Tulipa*, but the nearest ones to us were in fact all yellow *Tulipa kalpakowskiana*. With a little more attention and just that bit further up the slope we could see many tens of *Tulipa albertii*. We made our way up the scrubby slope (mainly *Spirea hypericifolia*) encountering many lovely plants on the way. There were lots of *Anemone petiolulosa* (some consider the robust form found here to be another species - *Anemone almaatensis*), mostly still tight closed despite the increasing light levels. We found another beauty - *Valeriana chionophylla*. It was quite a struggle for some, but all were determined to get to the top of the outcrop. The reward for this effort is to see the amazing panoramic view over the lake. On the top we found flowering specimens of *Eremurus cristatus*. They were more advanced than the ones we had found on the way up due to the aspect, but the *Tulipa albertii* and another species, *Tulipa buhseana*, were already setting seed up here for the same reason. On the way back down we found colonies of startling blue *Ixiolirion tataricum*. Inger and Stefan had been exploring the area nearer the minibus and Inger had found a large clump of *Iris tenuifolia* covered in flowers. Just before moving on we had a pair of Turkestan Shrikes in a nearby *Crataegus*. The next stop was for *Tulipa behmiana* about a kilometre or so on the other side of the dam. We arrived to find the slope of very fine sandy soil covered in large clumps of *behmiana* in absolutely perfect condition; their fabulous tall-for-a-tulip yellow blooms against a saturated blue sky made for an unforgettable sight. We might have been here at just the right time for the Tulips but the *Fritillaria karelinii* were well in seed and the *Iris tenuifolia* were either finished or had aborted flowering for the season. After a half hour's photography session we moved to our last location of the day, a peninsula overlooking the lake. This is a site that we usually visit for *Tulipa taliewii* (to some authorities this is just a larger often multi flowered version of *Tulipa buhseana*). Driving up the track towards our stop, we couldn't see much sign of *taliewii*, but this year there were thousands more *Tulipa behmiana*. The minibus was parked up and while lunch was prepared people spread out for a little explore. The *taliewii* were

all in seed but there were the irresistible *behmiana* to admire once more, especially a much-coveted creamy white specimen found by Robin. We all eventually gathered back at the minibus for lunch and refreshing tea. Hoopoes called in the background and large Swallowtails (*Papilio machaon*) flitted around us. While sitting Kurt and Robin noticed heavy Horsfield's Tortoise traffic in front of them (these animals can move at surprising speed!). It was hard to work out what their intentions were but they were certainly in a hurry. We did notice one that was stationary, its neck stretching to its full extent to make short work of a showy *Vicia subvillosa* that we had been admiring earlier. Overhead we could see small groups of Demoiselle Cranes very high up plus Black Kites, Griffon Vultures and a single Goshawk. A final wander around revealed plenty of the dark satyrid butterfly – *Erebia ocnus* and on a sheltered bank created by years of vehicle comings and goings some more flowers of *Iris tenuifolia*. We began to get back on the minibus and the talk was of the pity that we had missed the *taliewii* but possibly a bit churlish to complain given the treasures we had seen. At that moment Diana W and Kath arrived and asked 'what is this?' on the back of their cameras, they had found a fine specimen of *taliewii* somewhere in the distance!

Korday Pass and Merke Valley

We made an early start towards Merke. For some strange reason the government of the Kingdom of the Tulip chooses to plant its central reservations with Dutch hybrids. Being a slightly early spring most of the blooms were faded, but as we left the city the imposters were gradually replaced by self-sown *Tulipa kalpakowskiana* in perfect condition. We drove for a while before stopping to see *kalpakowskiana* where she really belongs, in rolling steppe. This was an exceptional year with nearly all mature bulbs in full bloom. The flowers studding the hillsides as far as the eye could see in all directions. We all got out of the minibus to get a closer look. There were Pied Wheatears here and the soothing jangle of Corn Buntings to break the silence. We chanced upon a strange clump of two or three orange flowered *kalpakowskiana* (a bit *ostrowskiana*-esque). This caused much debate about new species and all that, but Kurt explained as much as he would love it to be one it was simply a 'sport' that turns up from time to time in Tulip colonies. Back on the minibus we drove for quite some time, Stefan regularly showing us just where we were on his satellite tracking thingy on his i phone. Eventually we arrived at our next scheduled stop, the Korday Pass. As we disgorged from the minibus we could see hundreds of typical form *Tulipa ostrowskiana* in various shades of orangey red, dotted here and there were some yellow forms - during our 2010 visit the dominant colour was yellow and we had to search for the orange ones. The weather had been a bit 'iffy' on the way but cheered up just enough for us as we explored. Around the minibus there were plenty of the tuberous Berberid, *Leontice eversmanii* in flower and we found the stripy leaves of *Tulipa greigii*. Reconvening for lunch, we realised that there was plenty to see without going far. There were plenty of *Gagea filiformis* and a single creamy-white *Gagea ova*. Hiding in the cover of shrubs were the glaucous leaves of *Corydalis ledebouriana* and *Eranthis longistipitata* in seed. One last amble around the hills turned up large leaved *Rheum maximowiczii*, *Anemone petiolulosa* and the leaves of *Iris kuschakewiczii*. New birds included Lesser Kestrel and Roller, the latter being one of the first arrivals of the year. As we pressed on we passed through the Korday before eventually turning off onto the new Chinese-Kazakh highway right along the Kyrgyz border. Some road works held us up briefly near a river. This was quite fortuitous as it gave us the opportunity to see several Pygmy Cormorants. Hirundines were everywhere scooping up insects rising from the water. Before too long we got going properly.

The roadsides were lined with the large showy onion *Allium suworowii* and there were the occasional groups of small trees full of the nests of Spanish Sparrows awaiting the return of their migrating owners. Eventually we arrived at our quirky accommodation at the Merke Sanitorium. The weather had taken a turn for the worse so the ornamental lake in the grounds that normally gets the binoculars poised for action was bypassed and instead it was straight to the hotel, shower dodging with the suitcases

Robin and Kurt had resolved to go for a pre-breakfast birdwatching session the next day and even the driving rain wasn't going to stop them. On the lake were several pairs of Great Crested Grebe with nests and a few Mallards, we were probably just a little early for the Garganey that we often see here. In the surrounding trees we just about managed to keep the water droplets off our binocular lenses enough to see various Chiffchaffs and Bokhara Tit, but the star of the morning was a *flavipectus* race Azure Tit, looking a little rain smudged but worth all the neck bending it took to see it.

After breakfast it was time to make our way to the Merke Valley. The journey was made considerably easier than previous years as the normally rough road had recently been tarmaced. We parked at the entrance next to the fast flowing river that follows the road. On the slope behind us we had a look at an entirely yellow form of *Iris orchioides* growing on a rocky scree slope. It is quite heavily wooded here and Kurt had always been puzzled as to what it was doing here. After crossing the river we began to follow the windy track that goes up the valley. Here and there were *Leontice eversmannii* again and the frothy flowered *Crambe kotschyana*. Looking up a steep bank Inger spotted the most enormous specimen of *Tulipa greigii*; everything about it was double the 'normal' size and in complete proportion. Our target for the day was the sublime yellow and peachy red *Tulipa zenaidae*. This species is unusual in its preference for growing in the shady scrub of in this instance mainly *Spiraea* and *Lonicera* which can make it rather difficult to find. What had been obviously been a quite catastrophic fire the size of several football pitches last year had been rather helpful to us as amongst the charred remains of the shrubs we got privileged views of the Tulip without much effort. It made photography much easier than usual though it was essential not to touch branches as your clothes would get covered in soot! Anything bulbous or tuberous had sailed through the event without problem, so we also found unscathed *Gymnospermium albertii*, *Corydalis ledebouriana* and *Eremurus cristatus* in the area as well. Along the track we passed many *Tulipa ostrowskiana* and *Astragalus sieversianus* - those unfamiliar with this plant were amazed by its stature. On a huge boulder we found an unlikely colony of *Tulipa bifloriformis* on the sunny side and a lovely collection of ferns on the shady part. We eventually got to the spot where we usually look for *Tulipa zenaidae* and studied it in more typical habitat. We then made our way back to the minibus. The newly improved road had bought us some time and also given us a chance to explore higher up the valley. We stopped in a pretty little village to look at a raptor that had caught our attention. It turned out to be a Lammergeier, circling majestically but teasing us by disappearing behind the horizon every so often. As we were all out, we decided to linger a bit as there were plenty of birds moving about, there were the ubiquitous Mynahs and a pair of Masked Wagtails feeding young in the roof of one of the houses. We saw another raptor settle on the top of the opposite side of the valley to the Lammergeier - it was a Golden Eagle. Although the light was poor its golden nape flashed bright. Robin put his scope on it and got great views. In the meantime a brightly-dressed local lady edged up to the group grinning from ear to ear. She could see us all looking at the bird and produced a pair of bright blue plastic binoculars that looked like something you get free with petrol. Robin

characteristically generous with his scope, invited her over to look through it. She could hardly believe her eyes! Kurt wandered off to look at some of the nearby slopes and found plentiful *Tulipa zenaidae*. When he returned the group had also found Siberian Ibex not far from the area that the eagle had been. We pushed on up the valley getting as near as we dare to the Kyrgyzstan border. The rocky almost treeless slopes had plenty of *Iris orchioides* in flower - this now made a bit more sense of those on the wooded slopes lower down that must just be on the edge of their habitat range in the valley. On the way back down we flushed a fine male Blue Whistling Thrush. We carefully stopped and got out to have a better look and realised that there was a nest under one of the many small bridges that crisscross the road. Just as we got back to the Sanitorium the weather picked up and it seemed like a different world in the hazy sunshine. A Green Sandpiper was added to the bird list as we passed the lake.

We had a quick lunch at the hotel as we needed to get to the next stop at the Djabagly nature reserve as soon as possible. We did our best to stick to the plan, but on the way we saw people collecting bunches of vivid *Tulipa greigii*. There was an irresistible urge to stop (the Kazakh drivers don't mind these impromptu stops as it's a good excuse to grab yet another fag!) As usual the local folks happily posed for photographs and a sign language chat. Pushing on for our final leg we arrived at Yevgeney's wonderful guesthouse which was to be our base for the next few days

Kuyuk Pass

Today we awoke to pouring rain but ever the optimist Vlad thought we should try for lower altitude in the Kara Tau, namely the Berkara Valley that would perhaps be drier. We got as far as the Kuyuk Pass which is one of the 'gateways' to the Kara Tau. It was still raining quite heavily but, unlike butterflies and other fauna, plants stay put so we decided to have a look around at the botanical treasures. Perhaps the greatest spectacle were the abundant *Eremurus lactiflorus* in perfect condition. Dotted here and there were our first fully opened *Allium karataviense*. We were disappointed to find that the many spikes of *Iris wilmottiana* were more or less finished, but less surprised that the masses of *Tulipa orthopoda* were in very advanced fruit. We moved further down the valley to a small bulb 'hotspot' of a gulley, well known to us leaders from previous visits. Being just a bit lower made all the difference and we were delighted to find *Iris wilmottiana* in bloom along with some photogenic clumps of *Korolkowia sewersovii*, plus one or two splendid *Tulpa greigii*. Dotted around were the seed capsules of *Tulipa bifloriformis* and what would have been an extraordinary show of *Crocus alataovicus* a few weeks before. It was a very successful stop but still very wet. We went down to the bottom of the valley for one last look, this time for the 'normal' bicoloured form of *Iris orchioides*. We passed countless *Eremurus lactiflorus* en route before stopping at our traditional site for the *Iris*. The flowers were rather sparse this season and we scratched about looking for a decent specimen to photograph. While scanning the opposite slope with his binoculars Kurt spotted some spectacular multi-flowered clumps, the problem being that the slopes were very steep and slippery in the unrelenting rain. This didn't deter Stefan as he always likes to get the best shots he can of whatever has been seen during the day to show everybody later on his computer. Ben displayed immense chivalry by going up the more difficult route to get photographs of the best clump for Tessa - selective deafness had long since met Kurt's pleas to not even try! He will long be remembered for continuing to botanise while being assisted back down again by Stefan. Of the many special dicots in the area *Scorzonera inconspicua*

and *Oxytropis aulietensis* particularly appealed on this occasion. Hail really was the herald for common sense to kick in and abandon any hopes of the Berkara. We decided to head back to the guesthouse for a well-earned cuppa. We had a really enjoyable banter around the table, these trips seem to involve ever increasing amounts of incredible technical devices. Stefan showed us weather maps specific to this remote area which proved remarkably accurate on several occasions, and then pictures of the day's events. Good old Robin did sentry duty in the rain outside and did his best to get us White-winged Woodpecker while we stayed in the warm.

Berkara Valley

Today there was a most welcome sunny start, so it was decided to make another attempt at visiting the Berkara Valley. As we got on the minibus there was immediate excitement as a Black Vulture circled overhead. We travelled a few kilometers to the railway crossing at the village of Abail. We stopped to look in the Elm thickets that line the railway there, and were lucky to find the last vestiges of the stunning glaucous-leaved and perfectly contrasting yellow flowered *Corydalis severtzovii*. We moved on and stopped again at the Kuyuk pass this time to see the plants in much better light. The *Eremurus* had looked amazing in the rain but were even better in the sunshine. We found some special new dicots including *Cousinia karatavica*, *Astragalus atrovinosa* and *Scutellaria fetisovii*.

Our next stop was at the Karasai Valley. This follows the course of a small stream up an increasingly cliffy gorge. We disturbed a Black Stork with nesting material in its beak. Vlad said it was the first evidence of breeding in the area he had witnessed in over forty years. There was also a pair of Egyptian Vultures with a nest and they kept us in sight at all times. We were here for the special plant of the valley, *Corydalis shanginii* ssp *ainae*. It was a very good year for it and we found many lush clumps of it amongst the rocks that lined the stream. Kurt had an explore on the plateau above the cliffs and found countless *Iris wilmottiana* (unusually for this species growing in crumbling granite grit). It was so beautiful and peaceful that Ben, Tessa, Lawrence and Diana R declared that they wanted to stay all day. Regrettably they had to be prised away to push on to our final destination of the day. About another half an hour later we neared the Berkara Valley and made a brief stop to look at one of the many ancient tumuli that are a familiar part of the landscape here. Here we found our first Isabelline Wheatear of the trip. Eventually we pulled up to the entrance of the Berkara reserve. We enjoyed a delicious picnic before making our way up the valley. The Berkara is an extraordinary reserve for many reasons, not least as it has a highly disjunct breeding population of Himalayan Paradise Flycatcher, with some 23-25 pairs breeding in the riparian Ash (*Fraxinus potamophila*) forest. This is the bird's highest density in the whole of central Asia. The *Fraxinus* is also isolated by some 1000km from the next population. But it is the incredible colony of *Tulipa greigii* that comes in a dazzling array of different colours from the typical fiery red through yellow, orange to almost white, some with striped leaves some with plain that draws visitors from around the world. As we went higher into the valley we thought perhaps that we were a bit late this year as the first groups we encountered were a bit past their best. Climbing a little bit higher we found a tiny group of the pretty little endemic onion *Allium kuyukense* and nearby we began to see the Tulips in slightly better condition. It is another unusual habit of some of the *Tulipa greigii* at this site to grow in the shade of the Ash trees, This was perhaps our salvation for, in the cooler parts, we found really fresh examples flowering alongside *Korolkowia sewersovii*. Diana W was unable to resist taking photographs of a yellow and red striped *greigii* with a backdrop of the fast flowing stream behind. We pushed on further into one

of the hotter slopes passing some huge parasol leaved *Megacarpa orbiculata* on the way. There were abundant Tulips here but we were drawn to a superb group of the enigmatic pear, *Pyrus regelii*, with its deeply dissected leaves in perfect flower defying the heat and looking most spring-like. Reluctantly we had to make our way back. We drove a short way before deciding to take one last birdwatching opportunity at Taskol, a small brackish lake. Robin put his scope up and we found Gadwall, Great Crested Grebe and Lapwing. It had clouded over somewhat and there was a really chilly wind so we decided to call it an end to a really great day.

Taldybulak

Today started bright and sunny, but the so called 'Chokpak wind' made T-shirts a no no. Kurt and Robin went for a pre breakfast birdwatch and found Green Sandpiper and Grey Wagtail by the stream that borders the village. It was decided that we would visit one of the many beautiful local valleys easily reachable on foot from the guesthouse. Taldybulak was our destination and after about half an hour crossing the horse-grazing area between the village and the reserve we arrived at the river that forms the valley. In no time we were finding wonderful plants. The *Padellus mahaleb* were in full flower and especially noticeable were *Pedicularis olgae* and large-flowered *Anemone gortschakovii*. A large pile of what appeared to be stewed rhubarb drew more attention than perhaps it might. It was in fact the freshly deposited droppings of Isabelline Brown Bear and to be fair it looked like something someone had made rather than something had done! *Rheum maximowiczii* is an important food source for these animals when they first emerge from hibernation. Vlad had predicted that the higher we climbed up the valley the more we would escape the 'Chokpak', and with almost prophetic accuracy the wind abated the temperature increased rapidly and we began to see plenty of butterflies. They included Queen of Spain Fritillary, Holly Blue, Yellow-legged Tortoiseshell, Peacock and Orange-tip.

We needed to cross the river but to our dismay the wooden bridge was in no fit condition for taking people's weight. There was nothing for it but to get boots and socks off and brave the scarily cold melt water! Kurt was in the water for some time helping folks across heroically assisted by Lawrence who sacrificed dry footwear for the good of the group. (The whole thing was videoed by Stefan who would later show us the hilarious and undignified affair on his computer). Once over we followed the river further up and passed large swathes of Narcissus-like leaves. At first we thought they were all *Allium drobovii*, but in fact the great majority were the Amaryllid *Urginea sewerzowii*. These would undoubtedly be spectacular if they all flowered at once. (*Urginea sewerzowii* resolutely remains a foliage plant in cultivation!) The climbing temperatures brought out thermalling Lammergeir, Black Vulture and Golden Eagle. We explored further up the valley. We found plenty of the tiny bicoloured *Viola collina* and a good show of *Corydalis ledebouriana*. It was another *Corydalis* that we were really hoping to see here, namely *Corydalis nudicaulis*, and we were really lucky to find just one good specimen a mere twenty feet short of yet another impasse created by the swollen river. This time the river was to win and we decided to make our way back. About half way down we stopped for our picnic. Stefan unsurprisingly finished his lunch well before the rest of us and climbed high up the steep slope above us. Needless to say we got to see plenty of excellent photographs of the things he found up there. Leaving the reserve we found that the Anemones had taken advantage of the sun and were now wide open, but as we reached lower altitude and the meadows leading to the village the Chokpak came back with a vengeance and we had to brace ourselves against the cold all the way back to the guesthouse. Most of us made straight for the kettle and a welcome cup of

tea. Robin however, went out for one of his 'Condor moments' and returned with news of more Green Sandpipers and a single Wood Sandpiper too.

Akkol

A fine morning prompted Kurt and Robin to track down the Laughing Dove in the village that Vlad had mentioned the night before at dinner. Starting by the stream they found Robin's Wood Sandpiper and in the village a Black-throated Thrush and a pair of Hoopoes that looked even brighter than normal in the amazing morning light. Making their way back for breakfast, Robin quipped 'OK Kurt I'm putting you in charge of finding the Laughing Dove'. By amusing coincidence Kurt put his bins up and said, 'That's it calling there isn't it?' - and indeed it was! As the group left the village we picked up our first Cuckoos followed by a relatively quick drag towards Taraz on the newly-improved road. Passing Ters Lake in the distance, Vlad tapped Abyl Hassan on the shoulder and we came to an abrupt halt: 'Demoiselle Cranes!' he announced. This was a great thrill for all of us but particularly for Ben who had been asking about the chances of such a spectacle since our arrival, we estimated there to be about 1500 birds in total.

Pressing on we passed through the depressing sprawl of Taraz' abandoned Soviet fertiliser and chemical factories. It was a relief to get past it all and make a short stop at a mirror-calm lake to check for birds. On the water were plentiful Gadwall, Pochard, Wigeon and Great Crested Grebes. In the air were Caspian Gulls and a Marsh Harrier quartering over the reed beds. Diana W found the diminutive annual Pansy, *Viola modesta*.

Our next stop was at the enormous sand dune at Kum Burul. We passed the sand extraction works that will inevitably be the death of the dune - but hopefully not for a very long time. Approaching the top of the dune, we were buzzed by several large Swallowtail butterflies (*Papilio machaon* - the race found here seems consistently larger than those we are used to nearer to home. We found some bushes of the wonderfully-named *Callicotome kaput-medusae* - they are named on account of their seed pods that look like little heads covered with coiling snakes. On the top we found what we were really here for, masses of *Tulipa* aff *lehmanniana* in both yellow and orange forms. Most of the flowers had Chafer beetles writhing in the pollen; the males had a job to choose between making the most of the feast or the opportunity to mate with any unfortunate female that happened to land in the same flower. *Iris tenuifolia* in fruit and *Eremurus inderiensis* indicated that this is a very dry and well drained site. Our next stop was at our ultimate destination of Akkol, a great brackish lake in the semi desert. Abyl Hassan pulled up near the shore for us to have lunch. There was a chaotic scramble for clattering bins and scopes as we got out, for a group of Collared Pratincoles flew right over us. After lunch the group spread out to indulge their individual interests. Carefully pushing through the thickets of Tamarisk that surround the lake, it was possible to sneak up to the shore and get good close views of Little Ringed Plover and Wood Sandpiper. There was a busy passage of wagtail species and forms comprising mainly of three - Citrine, Syke's (blue-headed) and Feldegg (black-headed). Some of the group went with the scope to scan the water and found Dalmatian Pelican. Botanizing near to the minibus revealed some interesting plants amongst which were striking purple *Romeria hybrida*, *Papaver pavonicum*, *Strigozella turkestanica* and fruiting *Fritillaria karelinii*. Pushing on towards the great escarpment that overlooks the lake we got only a snatched glimpse of Pallas' Gull which was very frustrating but this was more than made up for when arriving at the top we

disturbed a family of Black-bellied Sandgrouse that seemed quite happy for us to watch them for a few minutes before merging back into the low scrub. We then started to make our way across the plateau. En route we found *Caragana kirgisorum* and hundreds of the mini corn-on-the-cob-like seed pods on *Iris subdecolorata*, and *Tulipa binutans* in a similar state. This *Iris* is a rare and local plant in Kazakhstan generally but was anything but at this site. Eventually increasing numbers of single very undulate glaucous leaves indicated that we were getting warmer in our search for today's main target, the Kara Tau form of *Tulipa albertii*. Finally we find glorious tomato-red blooms and one very unusual peach coloured specimen. We had just enough time left to wander along the cliff edge and take in the amazing panoramic view over the lake. On the way back to the minibus some of us were lucky enough to have Lesser Short-toed Larks bravely walking in front of us feigning injury to lure us away from their nests. On our way home we passed Ters Lake again and it occurred to those of us who weren't 'catching flies' with tiredness that we had seen the cranes in the morning, as the day had been so crammed with wonderful things!

Aksu Canyon

We awoke to a glorious still and sunny morning. Waiting for Abyl Hassan to turn up we witnessed a fascinating street brawl between several Mynahs and Magpies.

Abyl Hassan soon turned up in his deceptively decrepit looking old Russian bus. It only took a few minutes skirting the bottom of the mountains before we turned up the track towards Aksu. The meeting between mountain and plain around here is always abrupt and we were soon pointing forty five degrees towards the sky, With the 'tough as old boots' engine nearly revving itself to death we stopped at a traditional Greentours point to give the poor girl a rest and have time to admire the fantastic panorama overlooking Djabagly and the great expanse of the valley below. We got the most amazing views of Black Vulture from above and Griffons too. We pushed on across the plateau stopping at a stream amongst some melting snow. The general scene was extraordinarily beautiful with groups of horses wading in the stream and grazing without any need for fences to contain them. Young boys could be seen tearing about on horseback with no saddles or seemingly anything else to hang on to, Thank god Section Blah, Paragraph Wotsit of the Health and Safety rules doesn't apply up here! The turf was yellow with countless millions of the tiny yellow *Gagea minutiflora* and occasional *Gagea emarginata*. Here we had a late in the season chance to see flowering *Eranthis longistipitata* but perhaps most exciting were the *Scilla puschkinoides* and pristine ephemeral flowered *Crocus alatavicus* emerging and disappearing in sequence with the melting snow. While the group took lots of time photographing the bulbs, Kurt wandered further afield and found masses of the woolly rosettes of *Salvia sclarea* and Common Sandpipers that gave themselves away with their calls. We then made our way to the rangers' office to collect our permits and within a few minutes we had our first view of the breathtaking kilometre-deep Aksu Canyon. It was getting really hot so some of the group elected to stay and botanise the top, while the rest entered the canyon. On the way down the zigzag path took us past many wonders, in places *Tulipa greigii* lined the path occasionally spilling out into the open slopes where their shimmering red looked stunning against the perfect complementary green of the unfurling umbellifers. There were countless spikes of *Eremurus lactiflorus* in a form much whiter than those we had seen at the Kuyuk Pass earlier in the week and great drifts of *Cerasus tienshanicus* blanketing slopes in a most unusual situation for this species. Towards the bottom we started to find the first of many *Allium karataviense* and huge parasols of *Megacarpa orbiculata*.

Finally reaching the welcome shade of the rocks and shrubs around the river we sat for a while. Kurt found what at first appeared to be a dead snake in the water, but after getting everybody to have a look it started to move a little and then perked up. Stefan started to video it and it became slightly agitated. It was a great surprise to see what turned out to be a harmless Dione Snake shake its faux 'rattle' at us mimicking its venomous cohabitant of this area the Haly's Pit Viper. As we began the return trek Diana W spotted a Dipper. Our ranger guide decided he would have a quick cool off in the river before coming back with us. While we toiled with the heat and the steep slope it was quite depressing to see him ignore the path and climb in a straight line to the top with consummate ease. Towards the top a butterfly gave a good excuse for a breather. There were shouts of 'Small Copper' but its preoccupation with a flowering *Astragalus sieversianus* aroused Kurt's curiosity and it turned out to be the out of place (if its common name is to be taken literally) Caucasian Vernal Copper- *Tomares callimachus*.

After meeting up at the top we made our way to the usual Greentours shady tree spot for lunch. Restless Stefan set off in pursuit of several Rollers that were feeding and displaying amongst the few trees and telegraph poles in the area and came back with some marvellous pictures. We were treated to a constant flypast of migrating hirundines with attendant Hobbys on the same migration route following their mobile larder.

One last stop on the way home was to visit the village of Irsu, high up on the plateau. This place is about as isolated as it is possible to be as it is cut off for at least four months during winter. Seeing the smiling grandmas and children it was an idyllic scene - but how harsh a life must it be at times!

Koksay Gorge

In a complete contrast to yesterday the morning was a complete washout and put paid to Ben and Kurt's intended pre breakfast walk.

We set off for the Koksay Gorge, pessimistic but determined to make the most of the day. To our great relief by mid-morning it started to brighten up.

We were almost there when we came to a screeching halt. We had seen the shimmering wing beats of a distant Little Bustard and a scampering Jackal. We carried on and came to area of scrubby steppe not far from the gorge. We had a quick stop to investigate a superb colony of *Astragalus sewerzovii* whose compressed dinner plate sized rosettes studded the landscape. Not only this, there was also a group of very smart *Tulipa greigii* every bit as uniform and compact as the cultivar 'Little Red Riding Hood'. As we pushed on again, Vlad scanned the landscape intently, open hand against his forehead like a sailor in a crow's nest - he suddenly tapped Abyl Hassan on the shoulder. To everybody's amazement (except Kurt who has travelled with him and witnessed this skill many times!) he had spotted a single very distant flower of *Iris tienshanica*. A German group who had visited the day before had reported no sign of it anywhere. Out we got to have a look. This turned out to be a very good place for flowers. There were a lot of *Valeriana chionophylla* and two species of *Pedicularis* - we could identify one as *Pedicularis karatavica* but the second, a yellow species was unfamiliar to everybody. Another treat were the many *Iris orchioides* growing in most un-Juno like habitat.

Plentiful Calandra Larks filled the air with song as we made our way back to the minibus. This was supposed to be our last stop before the gorge but a little further on it was Kurt's turn to see something out of the corner of his eye. With his bulb goggles on he could see some tiny monocots, but couldn't make sense of them from a distance. Closer investigation showed that they were absolutely tiny flowering *Tulipa kaufmanniana*. Some were only three or four inches tall, complete miniatures in perfect proportion. By looking at these we made the lucky find of many *Iriodictium kalpakowskiana* too.

Finally we did get to the gorge itself. Making our way down to the river which forms the border with Kyrgystan, there were just a few stepping stones between us and a new country and the tantalizing *Saxifraga albertii* on the cliffs opposite. That was until out of nowhere the army turned up and very politely asked us to leave. There are some tensions between the two countries at the moment and the officer in charge didn't want us to be picked up in Kyrgystan without visas. Rather disappointed we moved a little further downstream to admire the most spectacular part of the gorge with its magnificent 'Cappadocian-esque' pinnacles. We took lunch here before exploring closer to the cliff edges. On the shadier aspects of some of the pinnacles we found *Saxifraga albertii* again but binoculars or long lenses were needed to get a closer view. There were masses of striking black and red *Parnassius* (Apollo) caterpillars feeding on *Sedum albertii*. Robin as usual was busy with his scope and gave us all wonderful close views of both Short-toed and Booted Eagles. We began the journey back across the steppe where we saw a Merlin hunting, batting across the land at incredible speed, almost touching the ground.

The weather had improved dramatically and so it was decided we should visit Ters Lake (we had seen it from a distance from the other side some days before).

Pulling up at a suitable vantage point, we could see only four Common Cranes but thousands of Demoiselles. Occasionally they would go up in great spiralling masses to welcome more birds coming in (they were clearly on the move). Scanning the water we picked up plenty of wildfowl including good numbers of Garganey, Pintail and Ruddy Shelduck. In the air were several Gull-billed Terns and in the margins we found Common Sandpiper, Redshank and a hunting Great White Egret. The gurgling of Marsh Frogs completed the scene as we got back on the minibus for home. We made a hasty return as in a few hours we would be getting on the overnight train to Almaty.

Almaty-Ashen Grove

After a good night of being rocked to sleep on the train, some of us ventured out into the corridor to have look outside. To our delight and surprise the steep banks in front of us were in places festooned with *Tulipa kalpakowskiana*. Gradually they faded away as we entered the vast sprawl of Almaty. Another minibus was waiting for us upon our arrival and we were quickly whisked back to the hotel for a relaxing breakfast before once again hitting the road towards the Ketmen mountains.

About an hour into the journey we got to the village of Chilik which sits amongst a labyrinth of ditches and streams. We had noticed the occasional clump of blue *Iris* for the last few miles but it became absolutely necessary to stop when we encountered a huge colony of them. The *Iris* in question was *Iris iliensis* (this species has a number of synonyms as long as your arm). Many

photographs were taken of the flowers which were mainly a uniform deep blue, but with the odd clump of sky blue specimens.

Pushing on we could see the Dzungarian mountains far to our left as we approached the Ketmen range. Here we entered a land of great plains between rugged mountains. Eventually we came to the vast expanse of the Sugaty, an area of arid steppe. The landscape was dotted with spectacular *Rheum tataricum* whose huge magnificent adpressed leaves were sending up great pagoda-like flower spikes. This site sometimes has amazing displays of myriad *Tulipa buhseana* but this year only a few could be found. Driving on, the landscape didn't seem to change but as the *Rheum* decreased in number the land became yellow with a tiny *Draba* species. Eventually the mountains began to meet each other and we began to climb through the rugged comparatively narrow valleys of the Ketmen. We made a stop to look at the pale yellow flowered *Eremurus altaicus* that adorned the rock ledges on both sides of the road. There were many wonderful plants here including some very robust forms of *Eremostachys speciosa*, *Linaria popovii* and mats of the local endemic *Scutellaria transiliensis*. It was hilarious to watch Diana W's legs going twenty to the dozen trying to stay still enough to get a photograph of this plant growing in fine loose scree! Moving on, we reached the right altitude for *Iris kuschekewiczii* and kept an eye out for it. We couldn't see any from the moving minibus so decided to stop in a place where we know they are abundant. Sadly they were all in seed. Just a bit further on we came to the spectacular Charyn Canyon. We stopped here next to the powerful river that gouged it and had our lunch.

Next stop was in the Kegen Pass, this time to look at the gorgeous candy striped *Tulipa iliensis*. By the roadside we found clumps of the unusual coloured plum and purple *Iris scariosa*. One amazing patch with dozens of flowers covered an area about the size of a small car. At the top of the pass we took our last stop of the day. We explored the rocky peak, one face of which is home to a large colony of Lesser Kestrels. It would be joy enough to sit and watch these beautiful birds but they have some wonderful plants as neighbours. In the grassy areas we found *Iris tienshanica* (local botanists call the forms found here *Iris loczyi*). There was another beautiful but this time dwarf *Iris*, *Iris ruthenica*. On the rocky peak we found *Tulipa tetraphylla* and *Androcace sericea* plus a really splendid scandent *Lonicera seminovii*. In the base of some shrubs there were *Corydalis glaucescens* and a few *Crocus alatavicus* but these were nearly over. Some Marmots on the slope opposite caused some entertainment before we had to call it a day. Finally we arrived at our accommodation for the night. It was the 'Ashen Grove' a small complex of pretty wooden buildings set amongst a riparian forest of *Fraxinus potamophila*. We settled in and had a marvellous evening meal around an enormous dinner table.

Altyn Emel Pass and back to Almaty

Being our last day, a number of people went for an early morning walk. Kurt headed for the thickets of *Populus*, *Salix* and *Tamarisk* that fringe the river and are no doubt half submerged for much of the year. Here he found the exquisite typical form of the Azure Tit giving wonderful close views in the clear morning light. Eventually he and Diana W had a 'Livingstone I presume' moment as their paths crossed. At that moment a Nightingale crossed the river and started to sing, to be joined by an ever increasing number as the morning progressed. Stefan and Inger went for a very long stroll upstream enjoying the very remote and wild feel of the area. Heading back to base a Sparrowhawk glided silently overhead.

After an enjoyable breakfast we said our goodbyes to our very kind hosts and were on our way. After a while we were travelling through scrubby steppe, the soil was very salty here and in places it looked as if it had been snowing. We made our first stop to have a look at a 'woodland' of the unusual Poplar, *Populus diversifolius*, whose dimorphic leaves make a very curious and interesting conversation point. There happened to be a series of brackish pools nearby so we took the time to see what birds were around. By the water's edge we found Syke's and Masked Wagtails, but star of the show had to be a very obliging Steppe Shrike which gave stunning views through Robin's scope.

Our next stop was to look at the amazing gypsum hills of Aktau. This is a truly bizarre landscape of bleached gypsum forming hills that would be just what the producers of Star Wars would be looking for when wanting to create a convincing scene from another world. In places there are great gashes created by flash flooding; it was impossible to know if they were created last week, last year or last century. Needless to say this place provided us with the opportunity to see many new exciting plants for the trip. The parasitic *Cistanche salsa* erupted through the crust here and there along with *Iris songarica*. These are the sort of plants you might expect in such a hostile environment, but a beautiful cerise *Onobrychis* species looked most out of place. On some small tumps we found what superficially resembled one of the tuberous *Pelargoniums* of South Africa (Inger has a passion for these) but was in fact *Erodium hoefftianum*, which we surmised must have at least a small 'lumpy bit' underground to survive here.

We tried to leave but interesting things kept 'popping up' like the fascinating black 'microphones' of another parasite - *Cynomorium songoricum* nestling amongst the scrub of the plentiful halophite Saxaul - *Haloxylon affinis*. In the meantime Vlad had seen three Mongolian Finches and Robin had Hume's Whitethroat. Driving on we make a quick opportunist stop to photograph a great herd of Bactrian Camels. Kurt took advantage of folks looking the other way to use the 'gents' with expansive views on the other side of the road to find vast numbers of *Iris tenuifolia* in perfect bloom. We were deceptively high here which would explain why they still looked so good. Next stop was at the Altyn Emel Pass, The target here was *Tulipa brachystemon* and we had timed it to perfection - the hillsides were covered in them. Robin, who wasn't quite so preoccupied with the yellow blooms, had found another Tulip, aff *buhseana*, these were quite tall, robust and well-marked not unlike *taliwii*, but the habitat was quite 'wrong'. One plant of particular note was *Ligularia altaica*, a much more compact version of its cousin *Ligularia macrophylla* at about two feet tall. On rockier outcrops we found more *Iris scariosa*. Making our way back 'home' we lost altitude gradually and began to see increasing numbers of *Tulipa kalpakowskiana*. They were especially common in the roadside verges and elm windbreaks but also grew in their thousands where land had been left fallow for a season or two. The final leg was a mad dash as some of the group had expressed a keen interest in seeing the wooden cathedral in Almaty and time was running out. Our circular route took us back past the Kapchagai Dam, where we could see that all the *Tulipa behmiana* had finished flowering and there wasn't a single yellow dot on the hillside. Just goes to show the importance of timing on these holidays!

Systematic List Number 1 Flora

Key – F = in flower, B = in bud, L, leaves only, S = in seed & X = recorded

Spring Flowers of Tien Shan APRIL 2013		14 April	15 April	16 April	17 April	18 April	19 April	20 April	21 April	22 April	23 April	24 April	25 April
		Kapchagay	Korday Pass	Merke valley	Kuyuk Pass	Karasay, Berkara, Taskol	Taldibulak	Kum-Burul, Akkol Lake	Kshi-Kaindy valley	Aksu Canyon	Koksay Canyon, Ters Lake	Alasa and Kegen pass	Altyn Emel pass
Day:		1	2	3	4	5	6	7	8	9	10	11	12
<u>EQUISETACEAE</u>													
<i>Equisetum</i>	<i>arvense</i>											X	
<u>POLYPODIACEAE</u>													
<i>Ceterach</i>	<i>officinatum</i>			X									
<i>Asplenium</i>	<i>ruta-muraria</i>									X			
<i>Asplenium</i>	<i>septentrionale</i>			X									
<i>Cystopteris</i>	<i>fragilis</i>			X			X		X		X		
<u>CUPRESSACEAE</u>													
<i>Juniperus</i>	<i>sabina</i>											X	X
<i>Juniperus</i>	<i>semiglobosa</i>			X			X		X	X	X		
<i>Juniperus</i>	<i>seravschanica</i>									X			
<i>Juniperus</i>	<i>sibirica</i>												X
<i>Juniperus</i>	<i>turkestanica</i>						X		X				
<u>PINACEAE</u>													
<i>Picea</i>	<i>schrenkiana</i>											X	
<u>EPHEDRACEAE</u>													
<i>Ephedra</i>	<i>equisetina</i>			X		X	X		X	X	X		
<i>Ephedra</i>	<i>intermedia</i>	X	X		X						X	X	
<i>Ephedra</i>	<i>regeliana</i>				X						X		
<u>ARACEAE</u>													
<i>Arum</i>	<i>korolkovii</i>					X	X		X	X			
<u>LILIACEAE</u>													
<i>Colchicum</i>	<i>luteum</i>								F				
<i>Eremurus</i>	<i>altaica</i>											X	
<i>Eremurus</i>	<i>cristatus</i>	F		B									
<i>Eremurus</i>	<i>inderiensis</i>	X											

<i>Eremurus</i>	<i>lactiflorus</i>				F	F				F									
<i>Eremurus</i>	<i>regeli</i>									X	X	X							
<i>Eremurus</i>	<i>tianschanicus</i>											X							
<i>Gagea</i>	<i>divaricata</i>	F							F										
<i>Gagea</i>	<i>emarginata</i>									F									
<i>Gagea</i>	<i>filiformis</i>		F		F	F	F			F	F	F							
<i>Gagea</i>	<i>minutiflora</i>								F		F	F							
<i>Gagea</i>	<i>ova</i>	F	F							F									
<i>Korolkovia</i>	<i>severzovii</i>				F	F	F			F	F								
<i>Rhinopetalum</i>	<i>karelinii</i>	S								S									
<i>Rhinopetalum</i>	<i>stenantherum</i>				S	S					F	F							
<i>Scilla</i>	<i>puschkinioides</i>											F							
<i>Tulipa</i>	<i>alberti alberti</i>	F																	
<i>Tulipa</i>	<i>alberti karatavica</i>									F									
<i>Tulipa</i>	<i>behmiana</i>	F																	
<i>Tulipa</i>	<i>biflora (SP.?)</i>																		S
<i>Tulipa</i>	<i>bifloriformis</i>			S	S	S	F									F			
<i>Tulipa</i>	<i>binutans</i>									S									
<i>Tulipa</i>	<i>brachistemon</i>																		F
<i>Tulipa</i>	<i>buhseana</i>	F	F																F
<i>Tulipa</i>	<i>greigii</i>		L	F	F	F	F	F	F	F	F	F							
<i>Tulipa</i>	<i>iliensis</i>																		F
<i>Tulipa</i>	<i>kaufmanniana</i>					S	F			F	F	F							
<i>Tulipa</i>	<i>kolpakowskianum</i>	F	F	F															F
<i>Tulipa</i>	<i>lehmanniana</i>									F									
<i>Tulipa</i>	<i>orthopoda</i>				S	S													
<i>Tulipa</i>	<i>ostrowskiana</i>		F																
<i>Tulipa</i>	<i>tetraphylla</i>																		F
<i>Tulipa</i>	<i>turkestanica</i>					S				F	F	F							
<i>Tulipa</i>	<i>zenaidae</i>			F															
<u>ALLIACEAE</u>																			
<i>Allium</i>	<i>drobovii</i>							L		L									
<i>Allium</i>	<i>fetisowii</i>									L									
<i>Allium</i>	<i>galantum</i>																		X
<i>Allium</i>	<i>inconspicuum</i>									L									
<i>Allium</i>	<i>karataviense</i>				F	F	F			F		F							
<i>Allium</i>	<i>pratensum</i>	B																	
<i>Allium</i>	<i>sewerzowii</i>									L		L							
<i>Allium</i>	<i>suworowii</i>		L	B															
<u>CONVALLARIACEAE</u>																			
<u>E</u>																			
<i>Polygonatum</i>	<i>sewerzowii</i>									L			F						
<u>AMARYLLIDACEAE</u>																			
<i>Ixiolirion</i>	<i>tataricum</i>	F				F		F										F	F
<i>Ungernia</i>	<i>severtzovi</i>							L								L			
<u>IRIDACEAE</u>																			
<i>Crocus</i>	<i>alatavicus</i>				S	S		L		F	F								
	(<i>Xiphium</i>)																		
<i>Iridodictyum</i>	<i>kolpakovskianum</i>										F				F				

<i>Iris pallasii iliensis</i>												F	F
<i>Iris ruthenica</i>												F	
<i>Iris scariosa</i>												F	F
<i>Iris sogdiana</i>						L			L	L	L	L	
<i>Iris songorica</i>			L	L							L		L
<i>Iris tenuifolia</i>	F						F						F
<i>Iris tienshanica</i>											F	F	
<i>Juno kuschakewiczii</i>		L										S	
<i>Juno orchioides</i>			F	F							F		
<i>Juno subdecolorata willmottiana (coerulea)</i>					F	S			F	F			
<u>SALICACEAE</u>													
<i>Populus diversifolia</i>													X
<i>Populus italicus</i>	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Populus nigra</i>	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Populus talassica</i>										X		X	
<u>BETULACEAE</u>													
<i>Betula talassica</i>									X				
<i>Betula turkestanica</i>									X				
<u>ULMACEAE</u>													
<i>Celtis caucasica</i>			X		X					X			
<i>Ulmus pumila</i>	X	X	X	X	X	X	X	X	X	X	X	X	X
<u>POLYGONACEAE</u>													
<i>Calligonum caput-medusae</i>								X					X
<i>Rheum maximowiczii</i>		B		L	F	F		F					
<i>Rheum tataricum</i>							S					X	
<u>CHENOPODIACEAE</u>													
<i>Haloxylon aphyllum</i>												X	X
<i>Rhaphidophyton regelii</i>				X									
<u>CARYOPHYLLACEAE</u>													
<i>Cerastium inflatum</i>	F	F			F		F						
<i>Holosteum umbellatum</i>					F		F				F		
<u>RANUNCULACEAE</u>													
<i>Adonis tianschanica</i>												S	
<i>Anemone almaatensis</i>	F												
<i>Anemone gortschakovii</i>							F						
<i>Anemone petiolulosa</i>		F							F	F	F		
<i>Eranthis longistipitata</i>		L	S		S	F			F	F	F		
<i>Ceratocephalus orthoceros</i>	S	S			S	S	F						
<i>Clematis orientalis</i>													X
<i>Clematis songarica</i>													X
<i>Ranunculus alberti</i>													F
<i>Ranunculus regelianus</i>		F	F	F	F	F	F		F	F	F	F	
<i>Thalictrum isopyroides</i>				X					X	X			

BERBERIDACEAE

<i>Gymnospermium</i>	<i>alberti</i>			S		S		F				
<i>Leontice</i>	<i>ewersmanii</i>		F	F								
<i>Berberis</i>	<i>oblonga</i>					X		X		X		
<i>Berberis</i>	<i>iliensis</i>											X

PAPAVERACEAE

<i>Glaucium</i>	<i>elegans</i>					f						
<i>Glaucium</i>	<i>squamigerum</i>											F
<i>Hypecoum</i>	<i>parviflorum</i>	F						F				
<i>Papaver</i>	<i>pavonicum</i>	F				F		F				F
<i>Roemeria</i>	<i>refracta</i>			F				F				
<i>Roemeria</i>	<i>hybrida</i>							F				

FUMARIACEAE

<i>Corydalis</i>	<i>glaucescens</i>											F
<i>Corydalis</i>	<i>ledebouriana</i>		F	F		S	F		F		F	L
<i>Corydalis</i>	<i>nudicaulis</i>						F					
<i>Corydalis</i>	<i>schanginii</i>	L										
<i>Corydalis</i>	<i>schanginii ainii</i>					F						
<i>Corydalis</i>	<i>sewerzowii</i>					F						

BRASSICACEAE

<i>Allisum</i>	<i>manginatum</i>	X			X	X						
<i>Barbarea</i>	<i>arcuata</i>				X		X					
<i>Cardaria</i>	<i>draba</i>					F		F			F	F
<i>Crambe</i>	<i>kotschyana</i>			X		F						X
<i>Crambe</i>	<i>orientalis</i>		L		X							
<i>Megacarpaea</i>	<i>orbiculata</i>					L			L			
<i>Parrya</i>	<i>sp 1.</i>			F								
<i>Parrya</i>	<i>sp 2.</i>											F
<i>Strigosella</i>	<i>turkestanica</i>							F				

CRASSULACEAE

<i>Pseudosedum</i>	<i>longidentatum</i>	F										F
<i>Pseudosedum</i>	<i>karatavicum</i>						F		F	F	F	
<i>Rosularia</i>	<i>alpestris</i>											X
<i>Rosularia</i>	<i>turkestanica</i>	X		X	X			X	X	X		
<i>Sedum</i>	<i>alberti</i>			X					X	X		X
<i>Sedum</i>	<i>ewersii</i>											X
<i>Sedum</i>	<i>hybridum</i>											X

SAXIFRAGACEAE

<i>Saxifraga</i>	<i>albertii</i>											F
<i>Saxifraga</i>	<i>sibirica</i>			L								

ROSACEAE

<i>Amygdalus</i>	<i>communis</i>						F		F			
<i>Amygdalus</i>	<i>petunnikowii</i>					F						
<i>Armeniaca</i>	<i>vulgaris</i>					F			F			
<i>Cerasus (Padellus)</i>	<i>mahaleb</i>						F		F	F		

<i>Cerasus</i>	<i>tianschanica</i>	F	F	F	F	F			F	F	F	F	F
<i>Prunus</i>	<i>sogdiana</i>			F	F	F	F	F	F	F	F	F	F
<i>Cotoneaster</i>	<i>karatavica</i>					X							
<i>Crataegus</i>	<i>pontica</i>								X				
<i>Crataegus</i>	<i>songarica</i>					X	X						
<i>Crataegus</i>	<i>turkestanica</i>		X	X		X	X						
<i>Hulthemia</i>	<i>persica</i>	L		L	L	F							
<i>Malus</i>	<i>niedzwetzkiiana</i>					F							
<i>Malus</i>	<i>sieversii</i>		F	F	F	F	F	F		F	F	F	F
<i>Potentilla</i>	<i>orientalis</i>		F	L	L	F		F		F	F	F	
<i>Potentilla</i>	<i>soongarica</i>							F					
<i>Pyrus</i>	<i>regelii</i>					F							
<i>Sorbus</i>	<i>tianschanica</i>								X				
<i>Spiraea</i>	<i>hypericifolia</i>	F	F	F	F	F	B	F		F	F	F	F
<u>FABACEAE</u>													
<i>Astragalus</i>	<i>andaulgensis</i>								F				
<i>Astragalus</i>	<i>atrovinosus</i>					F					F		
<i>Astragalus</i>	<i>sewerzowii</i>										F		
<i>Astragalus</i>	<i>sieversianus</i>			F	F	F	F			F	F		
<i>Astragalus</i>	<i>ugamicus</i>			X	X								
<i>Caragana</i>	<i>arborescens</i>					X							
<i>Caragana</i>	<i>balkhashensis</i>											F	F
<i>Caragana</i>	<i>kirghisorum</i>					F		F					
<i>Caragana</i>	<i>pleiophylla</i>											F	
<i>Halodendron</i>	<i>halimodendron</i>											X	X
<i>Hedysarum</i>	<i>cephalotes</i>												F
<i>Oxitropis</i>	<i>aulieatensis</i>			F	F	F				F			
<i>Vicia</i>	<i>subvillosa</i>	F	F	F	F	F		F		F	F	F	
<u>GERANIACEAE</u>													
<i>Erodium</i>	<i>cicutarium</i>					F		F					
<i>Erodium</i>	<i>hoeftianum</i>					F							F
<i>Geranium</i>	<i>rotundifolium</i>		L			F							
<i>Geranium</i>	<i>transversale</i>	F	F	F	F	F		F	F	F	F	F	
<u>BIEBERSTEINIACEAE</u>													
<i>Biebersteinia</i>	<i>multifida</i>									F			
<u>ZYGOPHYLLACEAE</u>													
<i>Peganum</i>	<i>harmala</i>							X				X	X
<i>Zygophyllum</i>	<i>kegense</i>											F	
<u>EUPHORBIACEAE</u>													
<i>Euphorbia</i>	<i>helioscopia</i>					F				F			
<i>Euphorbia</i>	<i>jaxartica</i>			L		L					L	L	
<i>Euphorbia</i>	<i>rapulum</i>	F	F										
<u>CELASTRACEAE</u>													
<i>Euonymus</i>	<i>koopmannii</i>								X	X			
<i>Euonymus</i>	<i>semenovii</i>			X								X	

<u>ACERACEAE</u>													
Acer	<i>negundo</i>	X	X	X	X	X	X	X	X	X	X	X	X
Acer	<i>semenovii</i>			L		F				F			
<u>RHAMNACEAE</u>													
Rhamnus	<i>cathartica</i>						X			X			
<u>VITACEAE</u>													
Vitis	<i>vinifera</i>					X							
<u>HYPERICACEAE</u>													
Hypericum	<i>scabrum</i>				L	L	L						
<u>CISTACEAE</u>													
Helianthemum	<i>songaricum</i>												F
<u>TAMARICACEAE</u>													
Myricaria	<i>squamosa</i>											X	
Tamarix	<i>ramosissima</i>							X				X	X
<u>VIOLACEAE</u>													
Viola	<i>collina</i>						F		F				
Viola	<i>dissecta</i>											F	
Viola	<i>modestula</i>							F					
Viola	<i>rupestris</i>											F	
Viola	<i>verna</i>				F	F	F						
<u>ELAEAGNACEAE</u>													
Hippophae	<i>rhamnoides</i>								X		X	X	
Elaeagnus	<i>oxycarpa</i>				X	X		X		X	X	X	
<u>UMBELLIFERAE</u>													
Ferula	<i>palida</i>												X
Ferula	<i>penninervis</i>	X					X			X	X		
Ferula	<i>tenuisecta</i>				X	X	X			X	X		
Mediasia	<i>macrophylla</i>								X				
Prangos	<i>pabularia</i>					X							
Schrenkia	<i>involucrata</i>					X		X		X	X		X
<u>PYROLACEAE</u>													
Pyrola	<i>rotundifolia</i>								X				
<u>PRIMULACEAE</u>													
Androsace	<i>sericea</i>											F	
Primula	<i>algida</i>											F	
<u>LIMONIACEAE</u>													
Goniolimon	<i>speciosum</i>												X
<u>GENTIANACEAE</u>													
Gentiana	<i>olivieri</i>								L				

CONVOLVULACEAE*Convolvulus tragacanthoides*

X

OLEACEAE*Fraxinus potamophila*

X

X

X

BORAGINACEAE*Arnebia decumbens*

F

Onosma dichroanthum

F

Onosma irritans

F

Nonea caspica

F

F

Rindera echinata

F

F

Rindera oblongifolia

F

Rindera (cyclodonta)

F

F

F

F

Solenanthus circinnatus

F

F

F

Myosotis micrantha

F

F

F

LAMIACEAE*Eremostachys speciosa*

F

F

Mentha asiatica

L

Lamiun amplexicaule

F

F

F

F

Flomis salicifolia

L

Pseudoeremostachys severzovii

L

Scutellaria kurssanovii

F

Scutellaria transiliensis

F

Ziziphora bungeana

L

L

L

L

L

L

L

Ziziphora tenuior

B

SCROPHULARIACEAE**E***Bungea vesiculifera*

L

F

Linaria pedicellata

F

Linaria ramosa

F

Pedicularis karatavica

F

F

Pedicularis olgae

F

F

F

Pedicularis sp.

F

F

F

Scrophularia sp.

F

Veronica becabunga

X

Veronica verna

F

F

F

CYNOMORIACEAE*Cynomorium songaricum*

F

OROBANCHACEAE*Cistanche salsa*

F

F

CAPRIFOLIACEAE*Lonicera karatavica*

X

Lonicera numirifolia

X

X

Lonicera semenovii

F

Lonicera tatarica

F

<i>Lonicera</i>	<i>tianschanica</i>				F			F		F	F	F		
<u>VALERIANACEAE</u>														
<i>Valeriana</i>	<i>chionophila</i>	F						F			F	F		
<i>Valerianella</i>	<i>turkestanika</i>			F	F	F	F							
<u>ASTERACEAE</u>														
<i>Achillea</i>	<i>filipendulina</i>						L							
<i>Cousinia</i>	<i>karatavica</i>						X		X					
<i>Inula</i>	<i>macrophylla</i>										L			
<i>Ligularia</i>	<i>macrophylla</i>									L				L
<i>Scorzonera</i>	<i>inconspicua</i>					F	F		F					F
<i>Scorzonera</i>	<i>sp.</i>					F		F						
<i>Taraxacum</i>	<i>officinale</i>	F	F	F	F				F		F	F	F	
<i>Tragapogon</i>	<i>marginifolius</i>					F	F		F					
<i>Tragapogon</i>	<i>ruber</i>	F												F F
<i>Tussilago</i>	<i>farfara</i>									F				

Systematic List Number 2 Birds

Birds, Animals, Amphibians and Reptiles of Tien Shan in April 2013		Kapchagay	Korday Pass	Merke valley	Kuyuk Pass	Karasay, Berkara, Taskol	Taldibulak	Kum-Burul, Akkol Lake	Kshi-Kaindy valley	Aksu Canyon	Koksay Canyon, Ters Lake	Kegen Pass	Alkyn Emel Pass
		Day: 1	2	3	4	5	6	7	8	9	10	11	12
Great Crested Grebe	<i>P. cristatus</i>		4	+		6		+			4		
White Pelican	<i>Pelicanus onocrotalus</i>							1					
Dalmatian Pelican	<i>P. crispus</i>							2					
Great Cormorant	<i>Phalacrocorax carbo</i>							+					
Pygmy Cormorant	<i>Phalacrocorax pygmaeus</i>		4										
Great Egret	<i>Egretta alba</i>										1		
Grey Heron	<i>Ardea cinerea</i>		4	3		2		3			1		
Black Stork	<i>C. nigra</i>					1							
Ruddy Shelduck	<i>Tadorna ferruginea</i>					6					4		2
Mallard	<i>Anas platyrhynchos</i>	1	2	2				2	3		+		4
Gadwall	<i>A. strepera</i>					+		8					
Eurasian Wigeon	<i>A. penelope</i>							1			1		
Northern Pintail	<i>A. acuta</i>										2		
Garganey	<i>A. querquedula</i>										+		2
Red-crested Pochard	<i>Netta rufina</i>										6		
Common Pochard	<i>Aythya ferina</i>							5					
Black-eared Kite	<i>Milvus lineatus</i>	+	2	1								+	+
Montagu's Harrier	<i>C. pygargus</i>	1	2					3					
Marsh Harrier	<i>C. aeruginosus</i>		1	1				3			1		
Northern Goshawk	<i>Accipiter gentilis</i>	1											
Northern Sparrowhawk	<i>A. nisus</i>	2		1					1	1	1		1
Rough-legged Buzzard	<i>Buteo lagopus</i>			1									
Long-legged Buzzard	<i>Buteo rufinus</i>			2		1		1		2	2	1	1

Eurasian Buzzard	<i>B. buteo</i>			1			1					1	
Short-toed Eagle	<i>Circaetus gallicus</i>					1						2	
Booted Eagle	<i>Hieraetus pennatus</i>											1	
Golden Eagle	<i>A. chrysaetus</i>			2			2		2			1	
Lammergeier	<i>Gypaetus barbatus</i>			1			1		1				
Egyptian Vulture	<i>Neophron percnopterus</i>					2							
Black Vulture	<i>Aegyptus monachus</i>					1	1	1		2			
Griffon Vulture	<i>Gyps fulvus</i>	2	1	3		3				2			
Himalayan Vulture	<i>Gyps himalayensis</i>			1									
Saker Falcon	<i>Falco cherrug</i>											1	
Northern Hobby	<i>F. subbuteo</i>			1				2		2	2	1	2
Merlin	<i>F. columbarius</i>										1		
Lesser Kestrel	<i>F. naumanni</i>		1									10	
Common Kestrel	<i>F. tinnunculus</i>	2	2	4		4	2	6	2	2	4	2	2
Chuckar Partridge	<i>Alectoris chukar</i>			1		2			1	2			
Common Pheasant	<i>Phasianus colchicus</i>			1		1	1		2			1	
Common Crane	<i>Grus grus</i>										6		
Demoiselle Crane	<i>Anthropoides vigro</i>	2		70				150			++		
								0			+		
Moorhen	<i>Gallinula chloropus</i>	1										1	
Coot	<i>Fulica atra</i>		6	+				+					
Little Bustard	<i>Tetrax tetrax</i>							2			5		
Little Ringed Plover	<i>C. dubius</i>					1		7			1	1	1
Northern Lapwing	<i>Vanellus vanellus</i>					1		1			+	1	
Green Sandpiper	<i>Tringa ochropus</i>			2		2	3	2			1	1	
Wood Sandpiper	<i>T. glareola</i>						1	1			1		
Common Redshank	<i>T. totanus</i>										2		
Common Sandpiper	<i>Actitis hypoleucos</i>	1									1	1	
Common Snipe	<i>Gallinago gallinago</i>							1			1		
Common Pratincole	<i>Glareola pratincola</i>							2					
Great Black-headed Gull	<i>Larus ichthyaetus</i>							1			2		
Black-headed Gull	<i>L. ridibundus</i>	1	8	+				+			+		
Caspian Gull	<i>L. cachinnans</i>					2		+			+		

Gull-billed Tern	<i>Gelochelidon nilotica</i>									8		
Common Tern	<i>Sterna hirundo</i>	1					2			2		
Black-bellied Sandgrouse	<i>Pterocles orientalis</i>						2				1	2

Woodpigeon	<i>Columba palumbus</i>	2	8	4	2	+	2	+	2	+	+	+	2
Rock Dove	<i>C. livia</i>	+	+	+	+	+	+	+	2	+	+	+	+
Collared Dove	<i>Streptopelia decaocto</i>			2	2	4	2	2	2	4	4		
Laughing Dove	<i>S. senegalensis</i>					2	2	2	2	2	2		
Eurasian Cuckoo	<i>Cuculus canorus</i>							1					
Eurasian Scops Owl	<i>Otus scops</i>		3	1	1							2	
Eurasian Swift	<i>Apus apus</i>											1	3
European Roller	<i>Coracias garrulus</i>		5	4		4		6		+	+	+	2
European Bee-eater	<i>Merops apiaster</i>			3									
Hoopoe	<i>Upupa epops</i>	1	1	1				1	1	1	1		5
White-winged Woodpecker	<i>Dendrocopus leucopterus</i>				1	2	2	2	2	2	2		
Sand Martin	<i>Riparia riparia</i>							1					
Crag Martin	<i>Ptyonoprogne rupestris</i>	1		+									
Barn Swallow	<i>Hirundo rustica</i>	+	+	+	+	+	+	+	+	+	+	+	+
Red-rumped Swallow	<i>H. daurica</i>	1											
House Martin	<i>Delichon urbica</i>	+	+										5
Crested Lark	<i>Galerida cristata</i>		1					2					1
Lesser Short-toed Lark	<i>C. rufescens</i>							6				2	2
Calandra Lark	<i>Melanocorypha calandra</i>		1			2		+		4	+		
Skylark	<i>Alauda arvensis</i>		1								+		
Tawny Pipit	<i>Antus campestris</i>		1			2							1
Tree Pipit	<i>A. trivialis</i>		1							1			
Sykes's Wagtail	<i>Motacilla flava beema</i>							+			+		1
Black-headed Wagtail	<i>M. feldegg</i>							1					2
Citrine Wagtail	<i>M. citreola</i>							2					1
Grey Wagtail	<i>M. cinerea</i>		1				4	1	1			1	
Masked Wagtail	<i>M. personata</i>	1	1	+	+	+	2	+	4	4	4	4	6
Turkestan Shrike	<i>Lanius phoenicuroides</i>	2											
Red-backed Shrike	<i>L. collurio</i>												1
European Starling	<i>Sturnus vulgaris</i>		+	+	+	+	+	+	2	+	2		+
Common Myna	<i>Acridotheres tristis</i>	+	+	+	+	+	+	+	+	+	+	+	+
Magpie	<i>Pica pica</i>	+	+	+	2	+	2	+	2	+	+	2	+
Alpine Chough	<i>P. glauculus</i>								+				
Jackdaw	<i>Corvus monedula</i>	+	+	+	+	+	+	+		+	+	+	+

Rook	<i>C. frugilegus</i>	++	++	++	+	+	+				+	+	++
Carrion Crow	<i>C. corone</i>	2	4	+	2	2	1	6	2	2	2	2	2
Hooded Crow	<i>Corvus cornix</i>		1										
Common Raven	<i>C. corax</i>		1	2		2					1		
White-throated Dipper	<i>Cinclus cinclus</i>			1						1			
Lesser Whitethroat	<i>S. curruca</i>	1											
Chiffchaff	<i>Phylloscopus collybita</i>			1	1		2		3	1	1		1
Hume's Warbler	<i>P. Inornatus humei</i>						1		1	1			1
Siberian Stonechat	<i>S. torquata</i>			2				+	2		1	1	1
Northern Wheatear	<i>Oenanthe oenanthe</i>	1	1										
Pied Wheatear	<i>O. pleschanka</i>	1	4	1		2		2		2	2	2	1
Isabelline Wheatear	<i>O. isabellina</i>						2	2			2	+	4
Nightingale	<i>Luscinia megarhynchos</i>												3
Common Redstart	<i>Phoenicurus phoenicurus</i>							1					
Blue-headed Redstart	<i>Phoenicurus caerulecephalus</i>								1				
Black-throated Thrush	<i>Turdus atrogularis</i>					1	2	2	2				
Blackbird	<i>T. merula</i>	1	2	2	2	2	2	4	4	2	2		2
Mistle Thrush	<i>T. viscivorus</i>								2	2			
Blue Whistling Thrush	<i>Myiophoneus caeruleus</i>			2			1						
Yellow-breasted Azure Tit	<i>P. flavipectus</i>			1			1						
Azure Tit	<i>P. cyanus</i>												2
Great Tit	<i>Parus major</i>	2	2	2	2	2	2	1	2			2	4
Turkestan Tit	<i>P. bokharensis</i>			1				1	1	1			
Eastern Rock Nuthatch	<i>Sitta tephronota</i>					nest							
House Sparrow	<i>Passer domesticus</i>	2	2									2	
Tree Sparrow	<i>P. montanus</i>				2	4	4	4	4	4	4		
Grey-headed Goldfinch	<i>Carduelis caniceps</i>					2							
Mongolian Finch	<i>Bucanetes mongolicus</i>												4
Corn Bunting	<i>Emberiza calandra</i>		2	2						2	2		
Rock Bunting	<i>E. cia</i>								2	1			
Grey-necked Bunting	<i>E. buchanani</i>								2				

Systematic List Number 3 Mammals, Reptiles & Amphibians

Large-toothed Suslik	<i>Spermophilus fulvus</i>		2				5		2	1		
Grey Marmot	<i>Marmota baibacina</i>											3
Indian Porcupine	<i>Histrix indica</i>					needl e						
Great Gerbil	<i>Rhombomys opimus</i>											hole s
Red Fox	<i>Vulpes vulpes</i>											dr
Golden Jackal	<i>Canis aureus</i>									1		
Brown Bear	<i>Ursus arctos</i>					dr di g						
Wild Boar	<i>Sus scrofa</i>							di g				
Ibex	<i>Capra sibirica</i>		2									
Argali	<i>Ovis ammon</i>							9				
Central Asian Toad	<i>Bufo pewzovii</i>		1									1
Marsh Frog	<i>Rana ridibunda</i>		1					1		3		3
Central Asian Tortoise	<i>Agrionemis horsfieldi</i>	3					1					
Grey Rock Gekko	<i>Mediodactylus russowii</i>						3					
Turkestan Plate-tailed Gekko	<i>Teratoscincus scincus</i>	1										
Stepperunner	<i>Eremias arguta</i>						1					
Rapid Racerunner	<i>Eremias velox</i>	1										2
Alpain Lidless Skink	<i>Asymblepharus alaicus</i>							3				
Reuss' Whip Snake	<i>Coluber nummifer</i>								1			
Dione Snake	<i>Elaphe dione</i>								1			
Orsini's Viper	<i>Vipera ursinii</i>		ski n									
Halis's Viper	<i>Agkistrodon halis</i>							2				1

Systematic List Number 4

Butterflies

BUTTERFLIES of TIEN-SHAN mountains, APRIL 2013		Kapchagay	Korday Pass	Merke valley	Kuyuk Pass	Karasay, Berkara, Taskol	Taldibulak	Kum-Burul, Akkol Lake	Kshi-Kaindy valley	Aksu Canyon	Koksay Canyon, Ters Lake	Alasa and Kegen pass	Altyn Emel pass
DAY:		1	2	3	4	5	6	7	8	9	10	11	12
Papilionidae													
Swallowtail	<i>Papilio machaon</i>	X		X				X	X	X	X		
Pieridae													
Orange-Tip	<i>Anthrocharis cardamines</i>			X			X		X	X			
Brimstone	<i>Gonepteryx rhami</i>						X			X			
Large White	<i>Pieris brassicae</i>						X		X	X		X	
Small White	<i>Pieris rapae</i>	X		X				X		X			
Eastern Pale													
Clouded Yellow	<i>Colias erate</i>									X		X	
Lycaenidae													
Small Copper	<i>Lycaena phlaeas</i>									X			
Green-underside													
Blue	<i>Glaucopsyche alexia</i>	X											
Holly Blue	<i>Celastrina argiolus</i>						X		X	X			
Nymphalidae													
Queen of Spain													
Fritillary	<i>Issoria lathonia</i>						X		X				
Yellow-legged													
Tortoiseshell	<i>Nymphalis xanthomelas</i>						X		X	X			
Small													
Tortoiseshell	<i>Aglais urticae</i>								X	X			
Peacock	<i>Inachis io</i>						X		X				
Painted Lady	<i>Cynthia cardui</i>			X				X	X		X		

<i>Libytheidae</i>													
Nettle-Tree Butterfly	<i>Libythea celtis</i>							X	X				
<i>Satyridae</i>													
Dalmatian Ringlet	<i>Erebia phegea</i>	X						X			X	X	X
<i>Hesperidae</i>													
Mallow Skipper	<i>Carcharodus alceae</i>								X				