

# Tien Shan

*Spring in Heaven*

## A Greentours Natural History Holiday

13<sup>th</sup> – 25<sup>th</sup> April 2003

Leaders Vladimir Kolbintsev and Phil Benstead

**Daily Report compiled by Phil Benstead**

### **Day 1      13<sup>th</sup> April      Journey to Almaty**

We all met up at the gate for our early morning departure from Heathrow without any trouble. Phil provided his usual “guided” tour of the impressively large Frankfurt Airport before we boarded the final leg to Almaty. Arrived here safely and were duly processed by customs and immigration and out into the night air where we were met by Vladimir and the two drivers and whisked off to the Hotel Almaty.

### **Day 2      14<sup>th</sup> April      Almaty to Merke Sanitorium**

We all met up again for a late breakfast and were joined by the last member of the group; Jan – who had been spending a few pre-tour days in Uzbekistan. Complete and replete we were soon climbing into the minibuses for the first of the two days we were to spend travelling towards Dzhabagly – our destination today being the Merke Sanitorium. The sky was overcast and without being demoralisingly informative Vlad told us that some “interesting weather” was expected in the next few days.

Stopping after two hours in some hilly grassland we wandered around stretching our legs. Vlad had already warned us of the late season this spring and this was quickly confirmed by finding a very late flowering (for the altitude) *Crocus alatavicus*. Here we also found the first tulips of the trip, the lovely golden-yellow *Tulipa kolpakovskianum* and also the first iris (*Juno (Iris) coerulea*). Meanwhile overhead a small number of Calandra larks sang and a “ringtail” hen harrier snuck through the low hills heading north.

Pushing on we drove up to the Kordoi Pass where we stopped for lunch. A quick walk whilst the drivers prepared the lunch revealed a lovely *Corydalis shanginii* in flower, as well the much more widespread *Corydalis ledebouriana* and a large number of *Tulipa bifloriformis*. The valley was also hosting a migrant isabelline shrike, a brief booted eagle and plenty of chukar. Overhead a flock of 40 demoiselle cranes made their noisy and, it later transpired, rather optimistic way north. After lunch we had a further 10-15 minutes exploring and Pat was soon up amongst the crags chasing

chukars and looking for plants. Crossing over the pass we stopped again in a sheltered valley and climbing the slope we were soon amongst more tulips, this time the variable *Tulipa ostrowskiana*. The supporting cast here included the striking yellow blooms of *Leontice evermanni* and the more subtle yellow *Anemone petiolulosa*. Birds were thin on the ground here but we did see our first black kite and black-throated thrush. Sadly at this point we simply had to return to the buses and drive to get to Merke in time for dinner.

En route were numerous black kites, two black vultures and a splendid congregation of 400+ demoiselle cranes resting in a field. We did manage two short stops (one puncture and one fuel stop) which allowed us a bit of time to stretch and during these breaks we heard the only Cetti's warbler of the trip, found more roadside *Tulipa bifloriformis* and were also able to watch a flock of 150+ black-throated thrushes. With classic timing we arrived at the rather imposing Merke Sanatorium as dusk drew in and were soon allotted our rooms and back downstairs for a well-earned dinner.

### **Day 3      15<sup>th</sup> April      Merke Sanatorium to Dzhabagly**

Waking up we were greeted to a "white-out", heavy mist/cloud and a light dusting of snow! Very unusual conditions for the time of year and caused by a massive movement of cold Arctic air from much further north. Tim and Phil went for a brief bird foray before breakfast which produced a good-sized flock of the grey-headed form of goldfinch (*caniceps*) as well as some common birds such as blue whistling thrush. After breakfast we optimistically climbed into the vans for a quick shuttle run further up the valley, from where we took to our feet and wandered higher up in search of plants. Visibility was atrocious and light snow began to fall! It has to be said though that the valley looked a picture – at this higher altitude a thick hoar frost rimed every tree picking out cobwebs and ensuring that plenty of very atmospheric photographs were taken. The frost was so hard that *Rumex* leaves shattered into pieces underfoot on the path! Birding was hard work, the visibility being a hindrance, although we did manage a goshawk, more blue whistling thrushes and a fine male blue-capped redstart. The target plant here was *Tulipa zenaida* and although we managed to find them in leaf we could find no flowering individuals (who could blame them though).

Arriving back at the van we fantasised about how much warmer it would be down in the steppe. We were soon disabused of this fanciful notion. Far from being warmer here it was actually colder and the wind-chill was phenomenal, the vans were soon festooned with icicles! Stopping in the Muyun Kum desert for lunch was undoubtedly the coldest part of the day. A short walk before lunch produced a number of very beautiful *Iris tenuifolia* and a few migrant birds but we were soon all sheltering in the lee of the vans and eating our lunch and enjoying a hot drink. Nearby was a large group of very forlorn lesser kestrels huddled together on a pylon. They kept flying around every 10 minutes just to keep warm – there was certainly no chance of any suitable prey being active and available to them. Although we were well-fed we could truly empathise with them as we huddled around the gas burner. After lunch we elected to keep driving, and had to slow right down crossing the Karatau as ice started to build up on the road and conditions became interesting.

Arriving at Yevgeny's we were soon sorted into our respective rooms and enjoying the garden birding. The unusually cold weather was reflected in the number of black-throated thrushes present

in the village and also by the delayed departure of six bramblings, which included one superb male. Vlad had promised us very different weather on the other side of the Karatau and he was not wrong. As we gathered for the first of many varied and excellent dinners the snow started to fall in earnest and the dreaded local *Chokpak* wind picked up and shrieked through the trees outside.

#### **Day 4      16<sup>th</sup> April      Dzhabagly, Akbiyik village and Jetimsay**

Nobody was surprised to wake up and find ankle-deep snow in the garden. The temperature overnight had dropped as low as -10°C. Phil managed two excellent hawfinches in the garden as he trudged through the snow from his “garret” to the breakfast table. After a fairly late breakfast we wrapped up and headed out undaunted to look for plants around the village. A few birds brightened up the snowscape and we all enjoyed very close views of grey wagtail, blue-capped redstart, Siberian stonechat and watched little ringed plovers hunched up on the banks of ice-rimmed streams. Amazingly a swallow batted past and we even found some flowers in the snow without too much excavation including winter aconite, more *Tulipa bifloriformis* and the lovely fritillary *Rhinopetalum stenanthrum*. Having walked well out of the village by now we turned back and walked back along the road. The village was full of black-throated thrushes and a number of stripy rock buntings were also much in evidence.

After a welcome lunch we met Abdulkhasim and his trusty bus and went for a short drive to the river and pond near the village of Akbiyik. Here we watched a bluethroat fossicking about along the river and some sorry looking hoopoes, one of which had ice encrusting the base of its bill. As we drove away from the site we found a moribund demoiselle crane in a field near the road. The weather was evidently causing hardship to more than passing tourists. Our next stop was Vlad’s special site for the rare *Corydalis sewerzovii*, where we forced our way through the snowdrifts to view the plants which were frozen solid!

Our next stop was in the foothills. The windchill out in the open was intense and we all worried about heading into the foothills but as Vlad promised it was indeed more sheltered and much warmer in the hills and there were lots more birds! The gentle walk up into the Jetimsay Valley produced a much-wanted bird for some of the group in the form of a splendid wallcreeper which performed well at close range and even hung around long enough for the botanists to see it before eventually flying across the valley and out of sight. Other good birds in the valley included brown dipper, black vulture and goshawk.

The botanists dug around in the snow and managed to unearth the first spectacular blooms of the fritillary *Korolkovia severzovi* and also *Tulipa kaufmanniana*. After a great walk we headed back to the bus and got back to Yevgeny’s place in time for snacks and beer before dinner. Phil had no takers for one last walk around the village in search of thwarted migrants and watched a single sulphur-bellied warbler creeping up the walls of an abandoned house in the biting cold all alone.

## Day 5      17<sup>th</sup> April      Ters Lake, Akkol, Kuyuk Pass and Borolday

Bitter cold and snow still lying in the village this morning. The continuing inclement weather dictated a trip out the steppe lakes on the other side of the Karatau for today. As we waited for everyone to gather we watched a brambling and Hume's warbler in the garden before gratefully climbing aboard the warm bus. Heading out towards Ters Lake we stopped briefly in a village to check out a splendid roadside white-winged woodpecker that was searching a telegraph pole for food.

Ters Lake was a picture when we arrived, snow everywhere, ice-rimmed pools by the roadside and very poor visibility as the lake itself was "steaming". There were some excellent birds present here though. We got close views of water pipits and a very confident male citrine wagtail was feeding on some nearby pools – its breast feathers matted with ice. It was very cold. Perhaps the biggest surprise here was a very confident *calidus* peregrine (a very difficult bird to see in Kazakstan) that along with the many steppe buzzards that we saw today had obviously called a halt to its northward migration and were waiting for better weather. A bit like us really. As we drove away from the site, Pat's eagle eyes spotted a splendid fox crossing the road, which carried on its way, occasionally stopping to look back at us.

We drove on to the next lake (Akkol) for a brief stop. New birds here included red-crested pochard, a single avocet and a solitary barn swallow. The lake's edge yielded two more citrine wagtails, two white wagtails and a female reed bunting (yet another late-departing winter visitor for the trip). Lunch was taken in the shelter of the bus to keep out of the cold and we were entertained by two black vultures and a pair of isabelline wheatears.

Moving on we headed for the botanical treasure house of the Kuyuk Pass, plenty of plants on show here but all frozen solid. The loose pre-Cambrian shales of this part of the Karatau support a number of plants not found in the Tien Shan and the botanists quickly got to grips with the beautiful *Eremurus lactiflorus*, *Juno (Iris) orchioides*, *Juno (Iris) coerulea*, and the distinctive leaves of *Cousinia karatavica* but had to content themselves with the early-flowering *Tulipa orthopoda* in seed.

The next stop at the abandoned iron mine at Borolday situated at the western end of the Karatau was amazing – there was no snow! There was still the biting *chokpak* wind to contend with but at least you could see the ground and the flowers. Both fritillaries and *Tulipa turkestanica* were present here. On the way home we stopped briefly at the Ters River where we watched a number of garganey and other duck and the only gull-billed tern of the trip put in a brief appearance as it flew downstream.

At dinner we all fervently hoped that the slight amelioration in the weather that we had witnessed would carry on and that climatic conditions would improve before they started to impinge on the itinerary.

## **Day 6      18<sup>th</sup> April      Kulan and Kokbulak Valleys and Mashat**

Today dawned bright and filled us with optimism that the harsh weather had broken. We drove up to the Kulan Valley, stopping briefly to watch a sun-bathing souslik. He, like us, could not believe the weather. Leaving the bus by a small sheep station (which had a resident flock of house sparrows). We walked into a stiff breeze to the valley which was snow-free. Plant life was very similar to yesterday afternoon and the *Tulipa greigii* here were still in bud teasing us. Tim found a Bokhara tit but otherwise there were very few birds here. The partially eaten tail of a glass snake found here was a mystery and as Vlad described this interesting legless lizard we all hoped to catch up with an intact example.

Leaving the Kulan Valley we drove on to the Kokbulak Valley, stopping briefly to admire a black vulture sitting in a field before a slightly longer stop at a site which had a number of *Tulipa kaufmanniana* and some striking *Solenanthus circinatus*. Arriving in the sheltered Kokbulak Valley lunch was taken outside in the sun! After lunch the birders checked out the river hoping for a few riparian species but were disappointed, although we did see another Bokhara tit and a fine short-toed eagle (complete with snake dangling from its bill – sadly we failed to identify the snake). Other excitement came in the form of the first butterflies of the trip – in total some four species were identified at this stop. Ambling back we met up with Vladimir and the others to find that they had flushed a Scop's owl and had good views! Which was by far the best 'plant' that they had seen.

The final stop of the day was the Mashat Gorge (a first for a Greentours group) and a site that finally secured us our first flowering *Tulipa greigii*, although the locals had picked all but the hardest to reach examples. Some strenuous legwork was required to get up to those that remained, alternatively you could enjoy them remotely through a powerful telescope from the road. There were plenty of jackdaws nesting in this gorge, occasionally joined in the air by a long-legged buzzard, an Egyptian vulture and a few sparrowhawks.

## **Day 7      19<sup>th</sup> April      Halfway House**

Again we woke to find that there had been snow in the night. This did not deter us however from sticking to our plan of riding up to the Halfway House and we all hoped (over a hearty breakfast) that conditions would improve. Sadly they did not and the poor visibility and light snowfall continued throughout the day. After breakfast we were driven up to the start of the trail, introduced to our horses and successfully installed and off we went.

Conditions were really very poor and we hardly saw any birds during the entire day – the only bird of note was a single black redstart. I suspect we may have broken some sort of Greentours record for the least number of bird species recorded in a full day in the field! Once off the horses at the Halfway House there were some plants to look at however including the stunning *Iridodictyum kolpakovskianum*, *Crocus alatavicus*, *Tulipa turkestanica* and *Gymnospermium albertii*. After lunch and plenty of hot drinks in the welcome shelter of the house, a crack team lead by Vlad set off to cross the small river in search of *Colchicum luteum*. They were successful and eventually brought back amusing and heroic tales of their attempts to cross the river on a narrow-gauge ice-covered log. The rest of the group elected to wait in the house for their return, and played charades to keep

up morale before walking or riding back to the bus! A day to remember!

## **Day 8      20<sup>th</sup> April      Karasai Gorge, Berkera and Dharbaza**

The icy weather finally broke today and we finally saw the sun again and not before time either! Today we spent visiting a number of sites in the steppes. First stop was the small pond on the main road by the village of Akbiyik. Here we were all enchanted by the sight of a small bare tree along the margin of the pond that held an assortment of brightly coloured wagtails. We had four species of wagtail here (including yet another stunning citrine wagtail) as well as two black-tailed godwits and a redshank. Continuing on towards the Karasai Gorge we stopped briefly to look at a small flock of corn buntings sitting on roadside wires.

Karasai Gorge is a magic place, hidden away just off the main road. For the botanist it produced *Corydalis shanginii ainii* – a rare and recently discovered plant in this area. There were also a number of excellent *Juno (Iris) coerulea* here too. But I suspect that the birds stole the show here with an amazing sighting of an eagle owl being the pick of the bunch. Flushed from the side of the gorge it perched in full view before launching off round the corner and out of sight. Also here we had brief views of eastern rock nuthatch and marvelled at its curious nest, a pair of short-toed eagles, linnet, rock thrush, tawny pipit and our first ruddy shelduck. Light rain fell as we turned back to retrace our steps to the bus.

Moving on we headed towards the Berkera Valley and lunch! After the venerable and gap-toothed gatekeeper had located the key we were allowed through the gate into the abandoned holiday camp and immediately fell about eating lunch. As we munched away a slightly confused Scop's owl called from nearby trees. The Berkera Valley is a botanical paradise with a number of exciting species and an interesting relict ash wood that seems very out of place in the steppe landscape. Vlad lead us on a walk climbing high up the valley after lunch and we could scarcely fail to notice the wonderful displays of *Tulipa greigii* and the less showy *Tulipa kaufmanniana*. Although we tried hard to see the white form of *Tulipa greigii* we could not find any when we eventually got high enough in the valley and suspected that they had yet to flower at this altitude. The late season brought one bonus though in the form of a small flock of pine buntings – another winter visitor that had delayed its return migration due to the inclement weather of this spring.

Driving on to the Dharbaza Lakes we found some evidence that bird migration was underway again in the shape of three ospreys sitting on posts along the road and a big flock of swallows sitting on roadside wires. Dharbaza was eerily quiet though with no terns or pratincoles. The most interesting bird was the tiny crane we flushed from the margin of the first lake that quickly flew and sought refuge in the nearest reedbed. The large reservoir here held a number of tufted duck.

Driving home we had yet another wintering bird in the shape of a fine southern grey shrike just by the road but the best was to come. As we neared Dzhabagly at dusk a flock of 900+ demoiselle cranes glided over the road slowly losing height heading to roost in the open steppe nearby. For me, and many others, this sight remains the abiding image of the trip.

## **Day 9      21<sup>st</sup> April      Taldibulak Valley**

After the bus safari yesterday we all took to our feet today for a delightful walk up the nearby Taldibulak Valley. The sun shone down and the mountains looked fantastic covered as they were in snow. The snow was melting fast and the stream we had to cross several times was bubbling merrily. Dippers were much in evidence along this lovely stream but proved very hard to see well. At the first crossing we headed up into a side valley and surveyed a south-facing slope for early flowering plants before heading back into the main valley. Interesting plants recorded during the day included *Iris sogdiana*, *Anemone gortschkovii* and *Cortusa turkestanica*.

As we slowly gained height the vegetation slowly gave way to snow and we started to see some interesting mammal tracks. Both isabelline brown bear and wolf had been active along the trail recently and ibex tracks could be seen everywhere (but try as we might we could not catch sight of one). As we searched the turf for plants we were joined by a wheeling flock of 250+ alpine chough and a single subadult golden eagle finally made an appearance in the clear blue sky. Stars of the show though were the two lammergiers that flew effortlessly contouring the ridge high above us – special birds.

Two horsemen searched us out at lunchtime and delivered our lunch, which was eaten by, or even in, the river. After lunch a small group continued on higher up the valley, where Phil saw two male white-winged grosbeaks and we all enjoyed the superb mountain scenery before returning to join the others. Heading back Tim realised he had mislaid a camera lens so he and Phil stayed behind whilst the rest returned. Phil and Tim were rewarded with good views of a sulphur-bellied warbler but the macro lens remains somewhere on the hill sadly. During the evening a debate raged about the identity of a snipe on the stream by the village. The debate was eventually settled when Phil used his digital camera to photograph the bird the next morning.

## **Day 10      22<sup>nd</sup> April      Irgaly Valley and Mir Plateau, return to Almaty**

The programme today included horse-riding to over 2000 metres and then returning in time to catch the overnight train to Almaty. Again the sun shone down on us and provided a beautiful backdrop of both the nearby mountains and the distant Karatau hills. The horse-ride up the Irgaly Valley to the first rest stop was very pleasant, especially as we flushed a solitary snipe as we arrived. We all felt that we had earned our “Intermediate Horsemanship” badges on the final leg to the top of the plateau – which was a glorious spot perched high above the plain and the village. When we arrived a lammergier was actually flying below us along the edge of the plateau – a great sight. This was eclipsed later though by Jan’s discovery of a fantastic short-eared owl – yet another late winter visitor.

Before lunch we fanned out across the plateau enjoying good views of alpine lidless skinks and taking in the fantastic array of flowers. Once again we were enjoying the delicate *Iridodictyum kolpakovskianum*, and finding plenty of flowering *Crocus alatavicus*, *Tulipa turkestanica* and *Gymnospermium albertii*. Cameras snapped away and video cameras whirred. After lunch we got back in the saddle and most of us elected to ride all the way back to the village.

Arriving back we had plenty of time to pack and sort ourselves out before an early dinner and a quick farewell and thankyou ceremony with the staff who had looked after us so well during our time in the village. Then it was back into the bus for our rapid transfer to the railway station. We managed to get everyone and all the bags safely onto the train at the station in record time and were soon chugging slowly towards Almaty. After negotiating with the guard for the heater to be switched off (even Mario was hot) we settled down to the journey and were lulled to sleep by the gentle rocking of the carriage.

## **Day 11      23<sup>rd</sup> April      Kapchagai Desert and Lake**

Waking up we found ourselves in the steppe and were rewarded with a few birds, trackside wetlands held a variety of waders and ducks and a flock of 350+ demoiselle cranes. Before long though we left the steppes behind and entered the hilly countryside around Almaty and finally the city itself. The train arrived on time after a 13 hour journey and we were quickly back in the minibuses and on our way to the Hotel Almaty. After breakfast we headed back out in the minibuses to spend some time in the Kapchagai Desert.

We stopped en route to admire a stand of *Tulipa kolpakovskianum* before finally arriving at the desert area which overlooked the massive Kapchagai Reservoir. Despite the overcast conditions Steve started finding some reptiles including a splendid toad-headed agama and a number of Horsfield's tortoises (of varying sizes). Overhead a number of Calandra larks were evident and we even managed to tease out three bimaclated larks.

Lunch was taken on the beach on the shores of the reservoir which proved surprisingly good for birds. A number of black-necked grebes were present amongst the duck offshore, but the best birds came in the form of a female white-headed duck – a most welcome surprise. As light rain started to fall our drivers Vladimir and 'Geny erected a tarpaulin between the buses and laid out the tables and chairs for lunch. Very civilised. Nearby patches of reed and scrub held a surprising number of migrant passerines including paddyfield warbler, Humes's warbler, common redstart and lesser whitethroat, as well as the only greenfinch of the trip. Driving back we stopped off at a large river crossing and enjoyed spectacular views of at least 6 Montagu's harriers before heading back to the hotel for a very well-earned meal in the nearby restaurant and an early night!

## **Day 12      24<sup>th</sup> April      Tuyuksu Valley**

Having faced our fair share of bad weather on this trip it seemed a bit much that our last day was to be rainy and wet! After a good breakfast we got into a bus and were soon out of town and climbing the hill to Cimbulak. As we climbed Vladimir estimated that the spring was even further delayed at this end of the Tien Shan and this was confirmed when we got out to look for plants. Many exposed slopes, even those well below Cimbulak, had only just lost their snow cover and although we found the leaves of *Tulipa dasystemon* the plants were clearly a long way from flowering.

Heading up above Cimbulak ski resort we went for a short walk in the rain up the Tuyuksu Valley and managed to see a number of black-throated accentors (many in full song) and heard coal tit and goldcrest. But here deep snow covered all and the chances of further plants diminished to the point



that we decided to head down to the Medeo landslide barrier for an early lunch before heading into town for some shopping. At the lunch stop Tim managed to find three Songar tits and a couple of roe deer on a short walk before we all headed back down the hill.

During the afternoon Vladimir took the group sight-seeing and shopping in town and after Mario had donated some money to the police benevolent fund they all returned safely to the hotel. We spent the evening in the restaurant celebrating Sue and Peter's 49<sup>th</sup> wedding anniversary and the successful culmination of a great trip (despite the appalling weather).

### **Day 13      25<sup>th</sup> April      Return to UK**

After the usual processing at the airport, and despite a few lost forms, we all managed to leave the country on our early morning flight to Frankfurt. Back-tracking through the now familiar Frankfurt Airport was no problem and we were soon on our way to Heathrow and home.

## Systematic List No 1    Flowers

Only the more significant species seen in leaf are included! The systematic order is a largely taken from Karmashov's flora of the Aksu-Dzhabagly Nature Reserve.

### *Polypodiaceae*

*Asplenium septentrionale*  
*Cystopteris fragilis*  
*Ceterach officinale*

Forked Spleenwort. Noted from Taldibulak.  
By far the most widespread and common fern.  
Noted from Taldibulak.

### *Equisitaceae*

*Equisetum arvense*

Along streams in the Aksu-Dzhabagly Reserve.

### *Pinaceae*

*Picea tienshanica*

The Tien Shan Spruce. These distinctive tall thin trees are dominant at mid-altitudes in the Zailiyskiy Alatau.

### *Cupressaceae*

*Juniperus semiglobosa*  
*Juniperus turkestanica*

Widespread and common in the Aksu-Dzhabagly Reserve.  
Widespread and common in the Aksu-Dzhabagly Reserve.

### *Ephedraceae*

*Ephedra equisitina*  
*Ephedra regeliana*

Common.  
Noted from the Karatau and the Kordai Pass – much less bush-like than previous species.

*Ephedra intermedia*  
*Eminium regellii*

Noted at Kapchagai.  
Noted in the Keratau.

### *Araceae*

*Arum korolkovi*

Leaves very noticeable at this time of year – e.g. Taldibulak

### *Liliaceae*

*Colchicum luteum*  
*Eremurus lactiflorus*  
*Eremurus cristatus*  
*Eremurus regelii*  
*Gagea chomutovae*  
*Gagea filiformis*  
*Gagea minutiflora*  
*Korolkovia severzovi*

In flower near the Halfway House, Aksu-Dzhabagly Reserve.  
Noted from the Kujuk Pass, Aksu-Dzhabagly and Berkara.  
Recorded en route between Dzhabagly and Almaty and in Kapchagai.  
In flower in some parts of the Karatau.  
Noted in the Kordai Pass.  
Noted on the Halfway House day.  
Aksu-Dzhabagly Reserve.

*Rhinopetalum stenantherum*  
*Tulipa dasystemon*

Very common between 1200 and 1600m in the Aksu-Dzhabagly Reserve – flowers varied from yellow through various greens and browns to an almost maroon-chocolate colour! Also common at Berkara.

*Tulipa greigii*

Or *Fritillaria stenanthera*. Widespread in the Aksu-Dzhabagly area.  
A few plants (none in flower) noted on south-facing slopes with recent snowmelt in the Cimbulak Valley – between 1900m and 2100m.

Greig's Tulip. This stunning beauty was found in flower at a number of locations. Most forms were red but in Berkara there is a bewildering array of colour forms including oranges, yellows, creams and even white ones, all shot with some red. Very large flowers of a goblet shape and with distinctive leaves (normally 4) which are covered in elongate dark, slightly purply, spots. Occasional hybrids with the next species noted.

<i>Tulipa kaufmanniana</i>	The 'Water-Lily Tulip'. Widespread and common – particularly so in mid-levels in the Aksu-Dzhabagly Reserve. Also noted in the Karatau along the stream at Berkara. Easy to recognise, the large, normally yellow flower, has a very open face and the tepals are quite rounded. Two leaves. Naked filaments, no obvious style and anthers which open from the top and become contorted distinguish it from all other tulips in the region.
<i>Tulipa kolpakovskianum</i>	This beautiful yellow tulip was noted on roadsides near Almaty and in the Kordai Pass area and Kapchagai.
<i>Tulipa ostrowskiana</i>	Dark-centred red and orange large-flowered tulips growing on the Kordai Pass.
<i>Tulipa turkestanica</i>	Noted on five days in the Aksu-Dzhabagly area.
<i>Tulipa bifloriformis</i>	Recorded in Taldibulak Valley, Keratau, Kordoi and Kapchagai.
<i>Tulipa orthopoda</i>	Recorded on the Steppe Lakes day.
<i>Tulipa zenaida</i>	Leaves only recorded at Merke Sanatorium.
<i>Allium karataviense</i>	Widespread and common, growing on rocky screes, particularly those that are south-facing and consisting of hand-sized rocks.
<i>Allium drobovii</i>	Recorded on four days in the Aksu-Dzhabagly area.
<i>Scilla puschkinoides</i>	Mashat Canyon.

### *Iridaceae*

<i>Crocus alatavicus</i>	A few in flower in the Muyun-Kum, Mashat Canyon, Halfway House, Kshi Kaindi, Aksu-Dzhabagly Reserve and many on the Mir Plateau at 2000m.
<i>Iridodictyum kolpakovskianum</i>	This stunning little iris was found in flower just south of the Halfway House, Kshi Kaindi, Aksu-Dzhabagly Reserve. Also many in bloom on the Mir Plateau.
<i>Iris tenuifolia</i>	Noted in the Muyun Kum desert and in the Kapchagai desert.
<i>Juno (Iris) coerulea</i>	The common blue junio iris.
<i>Juno(Iris) orchioides</i>	Stunning junio iris with bright yellow and white flowers on the usual stacked leaves. Noted in good flower on the Kujuk Pass, elsewhere either not yet in flower or over.

### *Salicaceae*

<i>Salix alba</i>	White Willow. Introduced.
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### *Betulaceae*

<i>Betula terkestanica</i>	One of the dominant trees of the river valleys in the Aksu-Dzhabagly Reserve
<i>Betula pendula</i>	Common on the lower slopes and up river valleys in the Zailiyskiy Alatau south of Almaty

### *Ulmaceae*

<i>Celtis caucasica</i>	Aksu-Dzhabagly Reserve and the Keratau.
<i>Ulmus androsovei</i>	Commonly planted along roadsides.

### *Polygonaceae*

<i>Rheum maximowiczii</i>	Widespread recorded on five days.
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### *Caryophyllaceae*

<i>Acanthophiton pungens</i>	Recorded on one day.
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## *Ranunculaceae*

*Anenome gortschakovii*

Not as common as the next species. Found in the Taldibulak Valley and the Irgaly Valley/Mir Plateau. Flowers more or less identical with the next, but the leaves much less dissect – looking rather like a Wood Anemone leaf. Open slopes.

*Anenome petiolulosa*

Widespread and quite common. Leaves very dissect – in the manner of *Geranium tuberosum*. Open slopes.

*Eranthis longistipitata*

A widespread very early flowerer. Normal aconite-type structure, flowers difficult to distinguish from anemones from a distance. Grows on slopes and along streams, often with some degree of shade.

*Ranunculus regelianus*

The very dissect radical leaves are somewhat reminiscent of an umbellifer. Noted in two steppe/desert areas.

*Thalictrum isopyroides*

Widespread and quite common on stoney slopes in Aksu-Dzhabagly.

## *Berberidaceae*

*Leontice eversmannii*

Large *leontice* with a pyramid-shaped flower spike containing 30 or more yellow flowers looking individually rather crucifer-like from a distance. The whole has a rather pyramidal-like effect with the horizontally-held very dissect glaucous leaves providing the base. Found growing on steppe on the Kordai Pass.

*Gymnospermium alberti*

Drooping clusters of orange-yellow ‘barberry’ flowers emerge from snowmelt and even the snow itself and fade rapidly as the palmate leaves emerge. Very common in the Aksu-Dzhabagly Reserve.

## *Capparaceae*

*Capparis spinosa*

Keratau.

## *Papaveraceae*

*Corydalis glaucescens*

A pink/red and white flowering species with a long raceme of many flowers and with toothed divided rather glaucous leaflets. Only recorded in the lower Taldibulak, Aksu-Dzhabagly Reserve.

*Corydalis ledebouriana*

Another pink, deep red and white flowered species with a thicker corolla and shorter spur than the above species. Few flowers in a rather thickset raceme. Leaves highly distinctive and only shared by *Corydalis sewerzovii*, the glaucous leaflets being large and rounded. Rather widespread – commonest in the Aksu-Dzhabagly Reserve.

*Corydalis schanginii*

Subspecies ‘*ainii*’. This beautiful species subspecies was only discovered about five years back by a Czech botanist and was known only from one valley (Berkara?) in the Karatau. The flowers are a combination of pink, deep red, white and yellow and are fully 4-5cm long with long attenuated spurs. With up to 20 flowers in a raceme this makes for a spectacular sight. Grows in mats over rocks and under shrubbery. The green leaflets are divided and toothed. We found it in the Berkara Valley. We also found the nominate sub-species in the Kordoi Pass on the first day.

*Corydalis sewerzovii*

This bright yellow flowered species is another great rarity. Vlad was able to show us this species at a number of locations. including by the railway line between Dzhabagly and Vanowka. The leaflets are very similar to *Corydalis ledebouriana*. Grows in planted snow-protection belts of *Ulmus androsovei*!

## *Cruciferae*

*Alliaria petiolata*

Garlic Mustard. Widespread!

*Capsella bursa-pastoris*

Shepherd’s Purse. Another link with home!

*Parrya* spp.

Recorded on two days.

*Megacarpa orbiculata*

Recorded in Mashat Canyon and the Berkara Valley.

## Rosaceae

*Amygdalus petunnikovii*

An almond. A small shrub growing not much bigger than 1m. Covered in pink flowers the shade of which was very distinctive – probably owing more to the persistent stamens as the petals seemed to all fall quickly. Rocky slopes in Berkara. Recorded in the Mashat Canyon.

*Amygdalus spinosa*

*Cerasus tienshanicus*

The Tien Shan Cherry. Very like the European *Prunus* (*Cerasus*) *prostrata*. Very floriferous – areas coloured pink by its blooms.

*Crataegus pontica*

Noted on three days.

*Crataegus songarica*

Noted on two days.

*Crataegus turkestanica*

This hawthorn has a beautiful burnished copper/cinnamon coloured bark.

*Hulthemia persica*

Widespread – best groves were in Taldibulak.

*Malus niedzwetzkyana*

Noted in various parts of the Karatau. Kazakhstan's National Flower.

*Malus sieversii*

This extremely rare apple was noted in Berkara. A smallish tree, the flowers were very bright pink – later the fruit has red flesh!

*Padellus mahaleb*

The other apple in flower in Berkara (and widespread elsewhere). A larger tree, the flowers are a little smaller and much paler.

*Potentilla asiatica*

Scattered.

*Pyrus regelii*

Noted at one location in the Keratau.

*Sorbus tienshanica*

A small pear covered in white blossom at this time. Noted in Berkara.

*Sorbus persica*

The local 'mountain ash' in Cimbulak.

*Geum rivale*

The local 'mountain ash' in the Aksu-Dzhabagly Reserve.

*Spiraea hypericifolia*

Keratau.

Scattered in steppe areas.

## Crassulaceae

*Pseudosedum* spp

Widespread.

*Rosularia turkestanica*

Widespread.

## Fabaceae

*Astragalus sieversianus*

Large *Astragalus* with spikes of yellow flowers, these turning into round white hairy pods. Common in the Karatau – particularly Berkara. Also on the Kordo Pass.

*Astragalus severtzovii*

Mashat Canyon.

*Astragalus ugamius*

Mashat Canyon.

*Trifolium repens*

Scattered.

## Geraniaceae

*Erodium cicutarium*

Scattered in flower.

*Erodium hoeflianum*

Only noted in the Karasai Gorge.

*Geranium rotundifolium*

Scattered in flower.

*Geranium (tuberosum) transversale* Frequent in flower in all areas – very variable!

## Euphorbiaceae

*Euphorbia virgata*

Kordo Pass.

## Celastraceae

*Euonymus koopmannii*

This scrambling 'spindle-vine' was seen in leaf in around the Halfway House of the Aksu-Dzhabagly Reserve.

*Euonymus korolkowii*

Noted in the Kordo Pass.

## *Vitaceae*

*Vitis vinifera*

Noted on one day in the Keratau.

## *Violaceae*

*Viola suavis*

Widespread and common in flower.

## *Apiaceae*

*Ferula tenuisecta*

*Ferula pinninervis*

*Prangos pabularia*

Noted in the Karatau.

Aksu-Dzhabagly Reserve.

Noted in the Karatau.

## *Primulaceae*

*Androsace maxima*

*Cortusa turkestanica*

In flower. Abundant in the Karatau in particular. Rather insignificant pink flowers set in large green bracts

Taldibulak Valley.

## *Oleaceae*

*Fraxinus potamophila*

*Fraxinus turkestanica*

Noted in Berkara and Mashat Canyon. Extremely rare. Smaller and finer leaved than the following species.

Scattered in the Karatau (naturalised?).

## *Boraginaceae*

*Nonea caspica*

*Onosma dichroanthum*

*Onosma euchroma*

*Rindera oblongifolia*

*Rindera cyclodonta*

*Solenanthes circinnatus*

Pretty little nonea about 10cm tall with pinkish cup-shaped flowers. Kapchagai.

Noted in flower on the Keratau.

Karatau.

An orangy-flowered small borage only noted in the Kordoi Pass area.

Yellow stamens protrude from maroon flowers. Karatau.

A borage up to a metre tall – though often much less – with tubular flowers with very long style and anthers protruding. In the Keratau.

## *Labiatae*

*Eremostachys speciosa*

*Scutellaria immaculata*

*Lamium amplexicaule*

*Mentha asiatica*

*Salvia sclarea*

Noted in the Keratau.

2000 Aksu Canyon

Henbit Deadnettle. Scattered in flower in the Keratau.

Scattered in flower.

In flower along roadsides in lowlands.

## *Scrophulariaceae*

*Bungea vesiculifera*

*Pedicularis olgae*

*Veronica chamaedrys*

Noted at the Keratau.

This is an early flowering snowmelt species with inflated calyxes and deep small maroon flowers. Noted around Halfway House and in the Irgaly Valley.

Scattered in steppe.

## *Rubiaceae*

*Galium aparine*

Cleavers. Scattered.

## *Caprifoliaceae*

*Lonicera karatavica*

*Lonicera tianshanica*

*Lonicera nummulerifolia*

Common in Berkara.

Taldibulak Valley.

Taldibulak Valley.

## *Valerianaceae*

*Valeriana tianshanica*

Small species with bright pink flowers. From almost prostrate to 15cm high. Noted in the Keratau.

*Valeriana chionophila*

Taldibulak Valley.

## *Dipsacaceae*

*Dipasacus azureus*

Widespread.

## *Asteraceae*

*Ligularia macrophila*

Leaves only. Keratau and Aksu-Dzhabagly.

*Achillea millefolium*

Milfoil. Widespread

*Achilles fillependula*

Widespread. Leaves only.

*Taraxacum officinale* agg.

Scattered

*Tragopogon marginifolius*

Scattered.

*Tussilago farfara*

Coltsfoot. Common along streams.

*Cousinia karatavica*

Widespread.

## Systematic List No 2

## Mammals

The nomenclature for the following list follows that given to us by Vladimir Kolbintsev.

Mouse-eared bat ??		Several noted around the Hotel Almaty.
Large-toothed Suslik	<i>Spermophilus fulvus</i>	Noted between Almaty and Dzhabagly and also in the Karatau
Severtzov's Jerboa	<i>Allactaga severtzovi</i>	Burrows noted near Dzhabagly.
Mole Vole	<i>Ellabius talpinus</i>	Their holes and other signs of activity frequently noted.
Wood mouse	<i>Apodemus sylvaticum</i>	1 near Dzhabagly in the snow.
Muskrat	<i>Ondatra zibithica</i>	Introduced from North America. 1 in roadside ditch near Dzhabagly.
Indian Porcupine	<i>Hystrix indica</i>	Dung and signs of feeding activity at Berkara.
Badger	<i>Meles meles</i>	Signs in the Karatau.
Fox	<i>Vulpes vulpes</i>	Excellent individual near Ters Lake. Tracks and even a complete skeleton found elsewhere.
Wolf	<i>Canis lupis</i>	Tracks in snow up Taldibulak Valley.
Jackal	<i>Canis aureus</i>	Scats found in Keratau.
Stone martin	<i>Martes foina</i>	Tracks found in Aksu-Dzhabagly.
Weasel	<i>Mustela nivalis</i>	Tracks found in Aksu-Dzhabagly.
Roe Deer	<i>Capreolus pygargus</i>	2 in Tujuksu Valley above Almaty.
Siberian Ibex	<i>Capra sibirica</i>	Tracks and dung found in the Aksu-Dzhabagly Reserve.



## Systematic List No 3    Birds

The following is a list of all species encountered during the holiday. The order largely follows Vaurie (1957). An indication of abundance is given by the number of days seen – 2/11 – means that a species was seen on 2 out of the 11 days in the field.

Little Grebe	<i>Tachybaptus ruficollis</i>	Heard only at Dharbaza.
Great-crested Grebe	<i>Podiceps cristatus</i>	Recorded on three days.
Black-necked Grebe	<i>Podiceps nigricollis</i>	Six on Kapchagai Reservoir.
Great Cormorant	<i>Phalacrocorax carbo</i>	21 near Kapchagai Reservoir.
Egret spp.	??	1 only distantly at Dharbaza.
Grey Heron	<i>Ardea cinerea</i>	Widespread.
Ruddy Shelduck	<i>Tadorna ferruginea</i>	2/11.
Gadwall	<i>Anas strepera</i>	7 on the Steppe Lakes day.
Teal	<i>Anas crecca</i>	30+ on the Steppe Lakes day.
Mallard	<i>Anas platyrhynchos</i>	Widespread – 9/11.
Pintail	<i>Anas acuta</i>	8 at Ters Lake.
Garganey	<i>Anas querquedula</i>	Recorded en route from Almaty to Dzhabagly and 50+ on the Steppe Lakes day. 3/11.
Shoveler	<i>Anas clypeata</i>	5/11.
Red-crested Pochard	<i>Netta rufina</i>	A few on the steppe lakes day.
Pochard	<i>Aythya ferina</i>	Recorded on two days.
Tufted duck	<i>Aythya fuligula</i>	Recorded on two days.
White-headed duck	<i>Oxyura leucocephala</i>	A single female on Kapchagai Reservoir.
Osprey	<i>Pandion haliaeetus</i>	Five near Berkera.
Black Kite	<i>Milvus migrans</i>	Most numerous between Almaty and Dzhabagly. 5/11.
Lammergeier	<i>Gypaetus barbatus</i>	2 in Taldibulak valley and another below us from the Mir Plateau.
Egyptian Vulture	<i>Neophron percnopterus</i>	1 in the Mashat Canyon.
Black Vulture	<i>Aegypius monachus</i>	Scattered. Max daily count 3. 6/11.
Short-toed Eagle	<i>Circus gallicus</i>	Single (with snake) in the Kokbulak Valley and a pair in the Karasay Gorge.
Marsh Harrier	<i>Circus aeruginosus</i>	Recorded on two days only.
Montagu's Harrier	<i>Circus pygargus</i>	Only noted en route to Merke and along the large river on the way back from Kapchagai. 2/11.
Hen Harrier	<i>Circus cyaneus</i>	Single migrating through Kordoi Pass.
Goshawk	<i>Accipiter gentilis</i>	Two recorded; Jetimsay and Merke.
Sparrowhawk	<i>Accipiter nisus</i>	Scattered – 7/11.
Long-legged Buzzard	<i>Buteo rufinus</i>	Widespread in low numbers. 7/11.
Common Buzzard	<i>Buteo buteo</i>	Many grounded migrants noted on some days. 7/11.
Steppe Eagle	<i>Aquila nipalensis</i>	Single on the drive from Almaty to Merke.
Golden Eagle	<i>Aquila chrysaetos</i>	Single sub-adult in the Taldibulak Valley.
Booted Eagle	<i>Hieraaetus pennatus</i>	Single noted at the Kordoi Pass.
Lesser Kestrel	<i>Falco naumanni</i>	25 chilled individuals in a flock near the Muyn Kum gave excellent views. Also recorded in smaller numbers elsewhere. 4/11.
Common Kestrel	<i>Falco tinnunculus</i>	Widespread and common. 7/11.
Hobby	<i>Falco subbuteo</i>	Scarce – only one seen en route to Merke. 1/11.
Peregrine	<i>Falco peregrinus</i>	1 <i>calidus</i> on the Steppe Lakes day.
Pheasant	<i>Phasianus colchicus</i>	1 between Almaty and Merke
Chukar	<i>Alectoris chukar</i>	Widespread and common. 8/11.
Grey Partridge	<i>Perdix perdix</i>	Recorded on the first day only.
Crake spp.	<i>Porzana</i> spp.	Single in flight at Dharbaza.
Moorhen	<i>Gallinula chloropus</i>	Scattered. 5/11.
Coot	<i>Fulica atra</i>	Locally common. 5/11.

Demoiselle Crane	<i>Anthropoides virgo</i>	Several large flocks on migration, max daily counts of 950+ in the Keratau. 6/11.
Oystercatcher	<i>Haematopus ostralegus</i>	6 on the steppe lakes day.
Black-winged Stilt	<i>Himantopus himantopus</i>	Scattered. 2/11.
Avocet	<i>Recurvirostra avosetta</i>	Two single in the steppe lakes. 2/11.
Little-ringed Plover	<i>Charadrius dubius</i>	Scattered. 3/11.
Lapwing	<i>Vanellus vanellus</i>	Scattered. 3/11.
Ruff	<i>Philomachus pugnax</i>	8 near Berkera.
Common Snipe	<i>Gallinago gallinago</i>	30+ on Ters Lake and a single on the stream at Dzhabagly. 3/11.
Solitary Snipe	<i>Gallinago solitarius</i>	1 in Irgaly Valley.
Black-tailed Godwit	<i>Limosa limosa</i>	9 recorded on the steppe lakes day.
Common Redshank	<i>Tringa totanus</i>	10+ in the Steppe Lakes. 2/11.
Greenshank	<i>Tringa nebularia</i>	6 on the steppe lakes day.
Green Sandpiper	<i>Tringa ochropus</i>	Widespread. 7/11.
Common Sandpiper	<i>Actiis hypoleucos</i>	Widespread. 4/11.
Black-headed Gull	<i>Larus ridibundus</i>	Widespread. 5/11.
Y'lw-legged Herring Gull	<i>Larus cacchinnans</i>	Scattered – 3/11.
Gull-billed Tern	<i>Gelochelidon nilotica</i>	A single along the Ters River.
Rock Dove	<i>Columba livia</i>	The feral type widespread and common.
Woodpigeon	<i>Columba palumbus</i>	Widespread and common. 10/11.
Collared Dove	<i>Streptopelia decaocto</i>	Widespread and common. 7/11.
Laughing Dove	<i>Streptopelia senegalensis</i>	In villages.
Scops Owl	<i>Otus scops</i>	Single flushed and seen well at Kokbulak Valley during the day; also heard at Merke and Berkera.
Eagle Owl	<i>Bubo bubo</i>	1 in the Karasai Gorge.
Short-eared Owl	<i>Asio flammeus</i>	Single on the Mir Plateau.
Hoopoe	<i>Upupa epops</i>	Widespread. 8/11.
White-winged W' dpecker	<i>Dendrocopos leucopterus</i>	1 male in small village on Day 4.
Calandra Lark	<i>Melanocorypha calandra</i>	Common in steppe areas. 4/11
Bimaculated Lark	<i>Melanocorypha bimaculata</i>	Three in Kapchagai.
Crested Lark	<i>Galerida cristata</i>	Scattered roadside bird. 4/11.
Skylark	<i>Alauda arvensis</i>	Scarce. 1/11.
Crag Martin	<i>Ptyonoprogne rupestris</i>	1 in the Mashat Canyon only.
Swallow	<i>Hirundo rustica</i>	Widespread. 6/11.
House Martin	<i>Delichon urbica</i>	Only recorded near the Kordai Pass.
Tawny Pipit	<i>Anthus campestris</i>	Single at Karasai only.
Tree Pipit	<i>Anthus trivialis</i>	Grounded migrants noted most days. 9/11.
Water Pipit	<i>Anthus spinoletta</i>	At least six at Ters Lake in the snow.
Yellow Wagtail	<i>Motacilla flava beema</i>	<i>flava</i> wagtails recorded on 6 days, only subspecies identified was <i>beema</i> .
Citrine Wagtail	<i>Motacilla citreola</i>	Five during trip to Ters Lake and a single also at Dharbaza.
Grey Wagtail	<i>Motacilla cinerea</i>	Common along watercourses. 6/11.
White Wagtail	<i>Motacilla alba</i>	Recorded on four days in small numbers.
Masked Wagtail	<i>Motacilla personata</i>	Widespread and common. 10/11.
Dipper	<i>Cinclus cinclus</i>	Scattered. 2/11
Brown Dipper	<i>Cinclus pallasi</i>	A single in Jetimsay Valley.
Wren	<i>Troglodytes troglodytes</i>	Heard only at Merke.
Black-throated Accentor	<i>Prunella atrogularis</i>	4+ in the Tujuksu Valley above Almaty.
Bluethroat	<i>Luscinia svecica</i>	Singles on three days.
Black Redstart	<i>Phoenicurus ochruros</i>	Single en route to Halfway House.
Common Redstart	<i>Phoenicurus phoenicurus</i>	Migrants noted in small numbers on 7 days.
Blue-headed Redstart	<i>Phoenicurus coeruleocephalus</i>	Noted on four days.
Siberian Stonechat	<i>Saxicola maura</i>	Widespread. 7/11.
Isabelline Wheatear	<i>Oenanthe isabellina</i>	Widespread in steppe areas. 4/11

Northern Wheatear	<i>Oenanthe oenanthe</i>	Many migrants noted. 6/11.
Pied Wheatear	<i>Oenanthe pleschanka</i>	Widespread. 6/11. The hard weather took its toll on this species and we found two dead birds.
Rock Thrush	<i>Monticola saxatilis</i>	1 in the Karasai Gorge.
Blackbird	<i>Turdus merula</i>	Widespread and common. 9/11.
Mistle Thrush	<i>Turdus viscivorus</i>	Scattered. 4/11.
Black-throated Thrush	<i>Turdus atrogularis</i>	Still present in large numbers. Max daily count of 150+. 9/11.
Blue Whistling Thrush	<i>Myiophonus caeruleus</i>	Scattered. 4/11.
Cetti's Warbler	<i>Cettia cetti</i>	1 heard between Almaty and Merke.
Paddyfield Warbler	<i>Acrocephalus agricola</i>	1 in small patch of reeds by Kapchagai Reservoir.
Altai L'ser Whitethroat	<i>Sylvia curruca altae</i>	Two migrants near Kapchagai Reservoir.
Hume's L'ser Whitethroat	<i>Sylvia curruca althaea</i>	Single in the Muyun Kum.
Greenish Warbler	<i>Phylloscopus trochiloides</i>	Single in Dzhabagly.
Hume's Warbler	<i>Phylloscopus humei</i>	Scarce. 4/11.
Sulphur-bellied Warbler	<i>Phylloscopus griseolus</i>	Singles in Dzhabagly and Taldibulak.
Chiffchaff	<i>Phylloscopus collybita</i>	Widespread. 10/11.
Goldcrest	<i>Regulus regulus</i>	Heard in Tujuksu Valley above Almaty.
Boukhara Tit	<i>Parus bokharensis</i>	Scattered. 6/11.
Great Tit	<i>Parus major</i>	Only in Almaty area. 3/11.
Coat Tit	<i>Parus ater</i>	Heard in forests in Tujuksu Valley above Almaty.
Songar Tit	<i>Parus songarus</i>	Noted only in the Tujuksu Valley above Almaty.
Eastern Rock Nuthatch	<i>Sitta tephronata</i>	2+ in Karasai Gorge.
Wallcreeper	<i>Tichodroma muraria</i>	Single seen very well at Jetimsay.
Penduline Tit	<i>Remiz pendulinus macronyx</i>	Nests seen in lowland areas relate to this subspecies.
Penduline Tit	<i>Remiz pendulinus coronatus</i>	Last years nests much in evidence in Aksu-Dzhabagly.
Isabelline Shrike	<i>Lanius isabellinus</i>	Scattered. 3/10.
Southern Grey Shrike	<i>Lanius excubitor</i>	Single bird by the roadside in the steppe.
Magpie	<i>Pica pica</i>	Widespread and common. 11/11.
Alpine Chough	<i>Pyrrhocorax graculus</i>	Max count of c.250 in Aksu-Dzhabagly Reserve. 2/11.
Jackdaw	<i>Corvus monedula</i>	Widespread and common outside the mountains. 8/11.
Rook	<i>Corvus frugilegus</i>	Locally very common. 7/11.
Carriion Crow	<i>Corvus corone corone</i>	Widespread in low numbers. 8/11.
Hooded Crow	<i>Corvus corone cornix</i>	Scattered in small numbers. 3/11.
Raven	<i>Corvus corax</i>	Scattered. 2/11.
Common Mynah	<i>Acridotheres tristis</i>	Widespread and abundant. 11/11.
Starling	<i>Sturnus vulgaris</i>	Widespread and common. 11/11.
House Sparrow	<i>Passer domesticus</i>	7 in Kulan Valley by sheep ranch and a few in Almaty. 2/11.
Tree Sparrow	<i>Passer montanus</i>	Very common around habitation. 7/11.
Greenfinch	<i>Carduelis chloris</i>	Four in trees around Kapchagai Reservoir.
Chaffinch	<i>Fringilla coelebs</i>	Up to four in Dzhabagly area throughout.
Brambling	<i>Fringilla montifringilla</i>	Max. of six in Dzhabagly. 3/11.
Goldfinch	<i>Carduelis carduelis</i>	The grey-headed 'caniceps' race. Scarce. 2/10.
Linnet	<i>Carduelis cannabina</i>	5 in the Karatau. 2/11.
Red Crossbill	<i>Loxia curvirostra</i>	1+ below Cimbulak.
Hawfinch	<i>Coccythraustes coccythraustes</i>	2 in Yevgeny's garden during the snowy period.
White-winged grosbeak	<i>Mycerobas carinipes</i>	Two males high up the Taldibulak Valley.
Pine Bunting	<i>Emberiza leucocephalos</i>	Six birds on the slopes of the Berkera Valley were very late.
Rock Bunting	<i>Emberiza cia</i>	Locally common. 4/11.
Reed Bunting	<i>Emberiza schoeniclus</i>	Single female on steppe lakes day.
Corn Bunting	<i>Miliaria calandra</i>	Scarce in the steppe areas.

## Systematic List No 4 Reptiles and Amphibians

The nomenclature for the following list follows that given to us by Vladimir Kolbintsev.

Horsfield's Tortoise	????	3 in the Kapchagai Desert.
Toad-headed Agama	<i>Phrynocephalus mystacea</i>	1 on the edge of the Kapchagai Desert.
Alpine Lidless Skink	<i>Ablepharus alaicus</i>	Noted in Taldibulak and on the Mir Plateau.
Glass Snake	<i>Ophisaurus apodus</i>	Tail found in Kokbulak.
Orsini's Viper	<i>Vipera orsini</i>	Skin found.
Marsh Frog	<i>Rana ridibunda</i>	Noted on only two days.
Central Asian Green Toad	<i>Bufo danatensis</i>	Noted on one day only.

## Systematic List No 5 Butterflies

The nomenclature for the following list follows Lukhtanov & Lukhtanov and their 'Die Tagfalter Nordwestasiens'.

### *Pieridae*

<i>Anthocharis cardamines</i>	Orange-Tip	One noted in Kokbulak Valley.
<i>Gonepteryx rhami</i>	Brimstone	Irgaly Valley – noted on 1 day.
<i>Pieris brassicae</i>	Large White	Irgaly Valley – noted on 1 day.
<i>Pieris rapae</i>	Small White	Irgaly Valley – noted on 1 day.

### *Lycaenidae*

<i>Celastrina argiolus</i>	Holly Blue	One noted in Kokbulak Valley.
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### *Nymphalidae*

<i>Nymphalis xanthomelas</i>	Yellow-legged Tortoiseshell	Widespread – noted on 3 days.
<i>Aglais urticae</i>	Small Tortoiseshell	Scattered – noted on 4 days.
<i>Inachis io</i>	Peacock	Only noted on 2 days.