

A Botanical Expedition to the Wakhan Corridor

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The Wakhan Corridor is a strategic 'finger' of Afghanistan pointing to the north-east. Five hundred kilometres long and between 11km and 96km wide, this remote and inaccessible region is bounded by high mountains. To the immediate north lies the mass of the USSR Pamirs, whilst to the south the eastern Hindu Kush stretches into Chitral (Pakistan) with the mountains of Hunza and the western Karakorams to the south-east. The eastern frontier of the Corridor is the Xijiang (Sinkiang) Province of China where the Tagdumbash Pamir, south of Mt Kongur, is a prominent feature of the landscape. The Wakhan Corridor consists of the valleys of the upper reaches of the Amu Darya (Oxus River). Two principal tributaries converge to the east of Qala Panj in the western Wakhan—the northerly tributary, the Dara Sir-i-kol (Pamir River) forms the frontier between the USSR and Afghanistan and finds its source in Lake Sir-i-kol which straddles the frontier. The more southerly tributary is the Wakhan River which flows almost due west from the Wakhjir Pass, one of the main routes into Xijiang China.

The valleys of the Wakhan tend to be rather broad and show much evidence of past glaciation. There are numerous remnant glaciers in many of the side valleys, especially those bordering Hunza to the south. The whole region is bleak, there are few trees to soften the landscape and pastures tend to be confined to rather small areas, but there is a great deal of compelling beauty in this area, part of one of the world's least known and most isolated wildernesses.

Few foreigners have been fortunate enough to visit the Wakhan Corridor. The first Englishman to do so was Captain John Wood of the Indian Navy whose journey there in 1838 is acutely observed in his book 'A Journey to the Source of the River Oxus', published in 1872, and indeed until recently the life and character of the Wakhan has altered little since the last century. During the 1960s and 1970s, up until the Russian invasion of Afghanistan, a handful of European travellers were admitted. I was in Afghanistan in 1971 accompanying Prof. T. F. Hewer (Bristol University) on a botanical expedition and was lucky in being invited to join the then British Ambassador in Kabul, Peers Cater, and his wife on a trek to the Wakhan Corridor. As this region was scarcely botanised at the time, I jumped at the opportunity. Access to the Corridor depends as much on acquiring the right permits from the Afghan authorities as on the vagaries of the weather. During the spring

and summer, many of the rivers become swollen with snow meltwater and quite unfordable and existing bridges tend to be washed away at frequent intervals.

We departed from Kabul in mid-July, taking the road north over the Hindu Kush via the Salang Pass. After 3 days we reached Faizabad, the capital of the north-east province of Afghanistan, Badakhshan, which includes under its administration the Wakhan Corridor. From Faizabad, we followed the road along the Kokcha River to Zebak, a rather remote area where the opium poppy is extensively cultivated. The cantilevered bridge at Zebak over the Kokcha was fortunately still standing and a day later we arrived at Ishkashim at the narrow entrance to the Wakhan.

The Oxus (the stretch at the entrance to the Wakhan is often called the Ab-i-Panj) appears quite suddenly over a low bluff. The river is wide, swift and muddy, with wide areas of pale gravels with patches of willows and sea buckthorn. Here and there groups of bactrian camels foraged the sparse slopes along the river. The rough rocky track heads east close to the river and within a couple of hundred metres of the Soviet frontier where watchtowers, barbed fences and carefully graded slopes bear witness to a harsher regime. On the Soviet side, a garrison town (also called Ishkashim) is strictly regimented on slopes close to the river.

As we journeyed north-east towards Qala Panj, we had views of Tirich Mir (7699m) south across the border in Chitral and Karla Marksa (6724m) in the Soviet Pamirs to the north-east, both peaks with a thick cap of snow. At Qala Panj the track, such as it was, finally petered out. From here on we were to continue with a team of horses and pack animals organised for us by the village headman who had received advanced warning of our visit.

Two tribes inhabit the Wakhan Corridor. In the west, west of Sarhad, there are scattered permanent settlements, often with only a small cluster of houses, where the Wakis, related to other northern Afghan tribes, live. The Wakis are subsistence farmers cultivating fields of wheat and millet and chick peas, with buckwheat on the poorer, higher ground. Further east, there are no permanent dwellings, and this is part of the region of Kirghizia; the Kirghiz being a pastoral nomadic tribe of Mongolian origin who establish a series of summer encampments in the eastern Wakhan and where they tend herds of yaks, goats and sheep. Kirghizia covers the neighbouring parts of China and the USSR and the Wakhan Kirghiz move about freely from one country to another without apparent hindrance. The Eastern Wakhan is too high and inhospitable for cultivation, and the Kirghiz are essentially traders and on the whole more prosperous than their Wakis neighbours. The Kirghiz are a fine and noble tribe, the men noted for their prowess as horse riders, like many of the northern Afghan tribes, the Uzbeks and Tadjiks in particular.

It took us several days to accustom ourselves to our horses. The



Photo: Christopher Grey-Wilson

wooden saddles have to be well padded with blankets, otherwise one's existence becomes excruciatingly painful. To westerners, the horses seem undisciplined, kicking frequently and not at all backwards in biting should the occasion present itself. However, they are hardy beasts and well used to the rugged terrain. At high altitudes above 4500m yaks are generally used, but are far from easy to ride, and indeed one can walk almost as fast.

The Wakhan River narrows considerably beyond its confluence with the Pamir River. For its greater length it is swift, muddy and treacherous with numerous boulders rumbling along the bed of the river. The track frequently climbs away from the river to traverse a high bluff, at times clinging precariously to a cliff on a man-made ledge of sticks and rocks wedged somehow into the rock face. Gigantic scree plunge straight into the river and are generally devoid of plants except where they are more stable. There are, however, some calmer stretches in the river associated with extensive gravel banks and islands. Here there is generally a thicket of willows (*Salix* sp.), sea buckthorn (*Hippophae rhamnoides*), myricaria (*M. germanica*) and tamarix (*T. ramosissima*). Settlements are few and far between, being usually associated with wider stretches of the valley, often where a lateral spring affords stabler slopes and where pastures have become established. Deh Gulaman, Baba Tangi and Susti-i-Bala are such settlements on the south banks of the Wakhan River. Willows are frequently planted around the stone-walled habitations and along irrigation ditches. These provide wood for the main supports of the buildings, as well as beams for the roofs and some firewood. The areas surrounding these villages were generally rich in plants, many being typical of those found throughout the western Wakhan. A yellow starry-flowered Clematis (*C. hilariae*) formed tumbled entanglements along field boundaries. There were many plants growing in the wetter pastures including purple and pink marsh orchids (*Dactylorhiza* spp.), a slender pink primrose 200mm tall (*Primula pamirica*), several deep blue gentians (*Gentiana longicarpa*, *G. minutissima* and *G. prostrata*), as well as the closely related white-flowered Felwort (*Swertia lactea*) forming tufts 600mm tall.

There are still patches of woodland in the remoter areas, though more especially to the east of Baba Tangi. These consist primarily of willow and sea buckthorn with briars (*Rosa* sp.) and fine stands of birch (*Betula jarmolenkoana*). The bark of the birch peels off in broad thin whitish sheets and is used by the Kirghiz as paper. Scrub appears to re-establish itself fairly readily along the river gravels if destroyed, but woodland on slopes above the river is clearly in danger of extinction. Once removed, the combined effects of soil erosion and overgrazing make it almost impossible for seedling trees to become established. Certainly east of Sarhad the terrain is too high and bleak for much woodland and, except in the deeper, more sheltered valleys, stunted willows are rare.

The Wakhan River valley broadens considerably towards Sarhad. To

the west of the village there are extensive pastures associated with a small lake (*circa* 400m across). Unfortunately, grazing has much reduced the botanical interest of this area. Sarhad is the last permanent habitation on the Wakhan River, heading east. It marks the boundary between the land of the Wakis and that of the nomadic Kirghiz. This change is also marked by a considerable increase in altitude to the east and by a great decrease in the number of inhabitants. Consequently there is a decline in grazing so that, from a botanical point of view, the eastern part of the corridor is far more rewarding.

East of Sarhad, the track climbs steeply over the Dahlez (Deliz) Pass to the north of the Wakhan River, a rough pot-holed track that proved treacherous even for our sturdy Kirghiz horses. Although the lower slopes on the west side of the pass are grazed frequently, much of the upper slopes as well as the east side are ungrazed and proved the richest locality visited in the Wakhan. Rocky screes and slopes are abundant over 3300m and support a sparse cover of interesting perennial species. The summit area between *circa* 3900-4150m consists of wide rolling dry and exposed meadows dotted with large rock drifts and with screes and gullies on the eastern flanks. Common meadow plants here were a pasque-flower (*Pulsatilla albana*) in fruit with feathery seedheads and growing in similar places to the closely related species found in the European mountains, a small, yellow-flowered, whitlow grass (*Draba oreades*) not previously recorded from Afghanistan and yellow or orange poppies (*Papaver involucreta*) almost too delicate for such an exposed place. Many alpine species, often quite unrelated, assume a ground hugging dense cushion habit and in dry regions like the Wakhan, they are often adorned with strong spines or have a covering of grey or whitish hairs. A yellowish edelweiss (*Leontopodium ochroleucum*), common in the USSR Pamir, also grows here together with a small rhubarb (*Rheum tibeticum*) whose reddish leaf-stalks provide a refreshing, if slightly astringent, refreshment. There was a small pink-headed onion here also (*Allium carolinianum*), collected by the Kirghiz for food, as well as numerous aromatic herbs whose fragrance drifted across the slopes. In the rock gullies on the east side of the pass a small matted bistort (*Polygonum chitraticum*), new to the flora of Afghanistan, proved uncommon, though the most interesting plant here was a shrubby cinquefoil (*Potentilla phyllocalyx*), a prostrate cousin of the species (*P. fruticosa*) that occurs in Teesdale and indeed across much of the northern temperate Old World.

Further east we descended into a narrow valley where recent rockfalls had obscured the track in places, bringing the horses perilously close to the cliffs above the river, and we had several anxious moments before we had all safely negotiated this obstacle. The Kirghiz maintain a few stone huts here as winter shelters for passing tribesmen travelling between encampments, or for merchants transporting goods from further down the valley. Immediately east of Bahrak there is a thick scrub of willows,

sea buckthorn and tamarix, where the Bahrak river flows south into the Wakhan River. The rivers at this confluence are particularly swift and treacherous and the only way across is by a log and stone bridge precariously placed across the mouth of the Bahrak Gorge. Similar cantilevered bridges are common throughout the Pamirs, the eastern Hindu Kush and the drier parts of the western Himalaya, and the timber used is nearly always willow or poplar.

On a wet scree close by, the pretty blue, rather swollen, blooms of a delphinium (*D. brunonianum*) were supported on stems 400mm tall. This species is widespread in the western Himalaya over a considerable altitudinal range. High altitude forms show ecotypic variation in being only a few cm tall and smaller in all their parts and the non-botanist may well be excused for thinking that they belong to quite distinct species. However, at intermediate altitudes forms between the two can often be detected. On drier slopes close by we discovered wide clumps of a yellowish-flowered milk-vetch, 500mm tall, with inflated pea-pods, not unlike a bladder-senna. This proved to be a species new to science and later named at Kew, *Astragalus bahrakianus*.

East of Bahrak, the average elevation of the valleys increases from 3200m to about 4000m at Langar and Buzai Gumbad. With this, there is a significant decrease in the number and size of trees. Some species disappear completely beyond Langar, and only a few stunted willows, less than 1m tall, forming a knotted scrub, appear east of Buzai Gumbad. Beyond Langar the most conspicuous features of the flora are the meadows, often several hectares in extent, along the river's edge, and these provide excellent pasturage for horses and yaks.

We saw very few animals in the Wakhan. A lammergeir flew overhead on one occasion and alpine choughs flew around us on almost every pass. The shrill cry of marmots in alarm pierced the silent slopes, especially around Langar. The most famous animal of the region is undoubtedly the Marco Polo sheep (*Ovis poli*), now an endangered species, but we never saw one. We did, however, see the large twisted horns of this fine animal lying on the ground on several occasions. This sheep is still hunted by the Kirghiz but has become increasingly scarce in recent years, not so much because of the Kirghiz, I suspect, but because at one time the Afghan Government allowed rich American and European hunters into the Western Wakhan to hunt the Marco Polo Sheep, charging of course a high fee for the 'privilege'. It seems a great shame that man can get such pleasure and prestige from shooting such a fine animal, solely for the dubious honour of owning a large pair of horns.

Buzai Gumbad, at the entrance to the Wakhjir Valley leading up to the Wakhjir Pass, the main pass into Xijiang China, is set in a wide rather swampy valley with clear bubbling streams. It is one of several sites in the eastern Wakhan where there are groups of old Kirghiz graves. These remarkable mud-walled structures remain in fine



28 *Gentiana Falcata*



29 *Potentilla Phylocalyx*



30 *Waldheimia Elabra*



31 *Delphinium Brunnonianun*

condition after a century or more. They vary in shape, indeed there are scarcely two alike. However, the basic design is a square base, perhaps 3 or 4m across and 1m tall, with a thimble-shaped dome some 3m tall on top. Some have small slits or windows half way up, others short pillars on the corners of the base. The fine preservation of these monuments points clearly to the low rainfall of the region.

From Buzai Gumbad the valley widens into the Little Pamir at about 4000m, flanked by fine mountains, to the north the USSR Pamir and to the south the Chinese Taghdumbash Pamir. The track flattens considerably and the only hazards to overcome are the occasional swift icy river tributary and patches of boggy terrain which made progress particularly difficult for our horses at times. However, our Kirghiz guides knew the ground well and guided us through without mishap. The most characteristic plant of the dry valley slopes above (*Acantholimon diapensioides*) forms hard flat cushions up to 0.5m in diameter and studded with small stemless pale pink flowers in mid-summer. This plant is a cousin of the thrift (*Armeria*) and sea lavender (*Limonium*) common to British coastal areas.

The valley of the Little Pamir contains two large lakes which have a profound effect on the character of the valley itself. To the west the larger lake is Lake Caqmaqin, some 22km in length, which drains into the Wakhan River. To the east is Lake Bishutik which drains in the opposite direction, flowing north-east into the USSR but eventually westwards into the Amu Darya on the Afghan frontier 700km away. The size of the lakes fluctuates from one season to another and from year to year, but the water level appears to be higher during the brief summer months when there is plenty of snow and glacial meltwater pouring down from the surrounding mountains. As a result, the margins were extremely marshy and this made progress across the valley difficult, although it is apparently easy during the winter when the whole region is icebound. Many of the plants here are similar to those further west; however, one tiny plant, scarcely 20mm tall, proved of interest and later identified as *Koenigia islandica*, new to the flora of Afghanistan and a species primarily with a northern Arctic distribution.

Further on, heavy grazing, primarily by yaks, has had its effect on the vegetation here and proved rather disappointing compared with areas explored further west. The most conspicuous plants found amongst the thick growth of sedges were the yellowish edelweiss previously noted, a small yellow dandelion (*Taraxacum leucanthum*), a widespread starry white-flowered mouse-ear (*Cerastium trigynum*), a rather elegant gentian (*G. stricta*) 300mm tall and the related *Lomatogonium carinthiacum*, a long name for a small plant with pretty pale blue flowers.

The Kirghiz maintain a series of small summer encampments across the Little Pamir, generally with 8 or 9 yurts to each. The yurts are made primarily of layers of thick felt fastened over willow loops making a structure some 7-8m in diameter. At the apex, where the willows cross

the canopy can be withdrawn to regulate smoke from the fires built on the ground in the centre of the yurt. The main fuel burnt is dried yak droppings which gives off a sweet not unpleasant smell. As winter approaches, the Kirghiz move to lower ground or onto the south-facing slopes along the USSR frontier or along the sides of the Wakhjir itself. The Kirghiz chief, Rahman Col, and his sister, Haji Marian, maintain their summer encampments on the southern shores of Lake Bishutik and present all the signs of a prosperous pastoral tribe. The tribe tends large herds of yaks (or kashgows) and sheep which supply a basic diet of milk, cheese, fine cream and excellent yoghurt as well as meat. Today (or at least up until the Russian invasion) most supplies are brought in from Faizabad, the ancient trade routes into China, Hunza and Chitral not being used nearly so much as formerly.

We had been invited to stay with Rahman Col at his summer residence and we enjoyed five days of warm hospitality. Here, even in midsummer, flurries of snow and biting winds are not uncommon. We spent our days on forays into the mountains to the south, climbing up to 5500m on several occasions. Here at the eastern tip of the Wakhan Corridor, four worlds really do meet—the USSR, China, India and Afghanistan.

To the south of our encampment lay the Tergan Qurum Valley, one of several rather similar valleys running up into the Tagdumbash Pamir and leading over a high pass into Xijiang from the Little Pamir. The head of the valley, at about 5500m, is dominated by a glacier that feeds a swift milky river. There is a series of lateral hanging valleys and midway along the main valley a huge terminal moraine blocks the river which percolates slowly through this natural dam. Even the sure-footed yaks we took with us as transport had difficulty negotiating the steep rubbly path over the moraine. The valley rises from about 4500m to 5500m at its southerly end and this higher altitude marks the upper limit of vegetation in these mountains. Along the rivers and streams there are the usual sedge pastures mixed with a few grasses but in the wet places, large drifts of deep blue primroses (*Primula macrophylla*) and a small bright yellow buttercup (*Ranunculus pulchellus*) were almost past flowering. Other species in this association were two small gentians (*Gentiana falcata* and *G. minutissima*) both opening in the bright sunshine, and a starry white and pink felwort (*Swertia marginata*) not previously seen and making small clumps 150-200mm tall. On the moraines several interesting plants were seen, mostly as scattered individuals. Of these, the mat-forming daisies with pink flowers with a yellow eye known as waldheimias were most striking; there were 2 species, one with green mats of lobed leaves (*W. glabra*) and the other by contrast with silvery leaves (*W. nivea*). Two saxifrages grew between the rocks, one with white flowers (*S. sibirica*) on 60mm long stems and the other (*S. hirculus*) taller with bright buttercup-yellow blooms.

As we clambered into one of the hanging valleys, a sudden rockfall

divided the party and we all dived for cover and very fortunately no-one was injured. Rockfalls are frequently heard, especially in the late morning when the rocks have been warmed by the sun. Here there were stonecrops (3 species) nestling amongst the rocks and two tiny ferns (*Cystopteris fragilis* and *Distichium capillaceum*) not previously noted, but besides these there were many of the plants seen earlier on in the trip.

We managed to have some interesting conversations with Rahman Col about the Wakhan Corridor. It is apparent that earlier in the present century autumn rains and winter snows occurred every year. Over the intervening years, the autumnal rains have diminished and the snowfall is generally less, in some winters none at all. Glaciers have retreated to the higher valleys. Today it is the glaciers that feed most of the water into the rivers whereas a few years ago these were supplied primarily by snow meltwater—at least into mid-summer. This has of course affected the pasturage and the Kirghiz are faced for the first time with the problems of overgrazing. There are said to be 2700 nomads in the eastern Wakhan, together with some 3000 head of yak and 30,000 sheep, though how accurate these figures are it is difficult to say. Timber (willow) for the yurt supports and birch bark for paper have become scarcer, mainly because of overchopping, and the main sources are now found much further west than previously.

In mid-August we left Rahman Col and crossed Lake Bishutik on horse, returning along the Little Pamir Valley on the north side following the USSR frontier. North of Buzai Gumbad we headed north-west over the Warm Pass crossing the Warm Glacier into the Spadghiz Valley, a rather desolate region with vast moraines at about 5000m and fewer plants than we had expected, though with the usual thin meadows along the stream banks. The edelweiss and the waldheimias were here as well as a small yellow saxifrage (*S. komarovi*) dotting one or two slopes. Eventually our route turned south along the Bahrak River, which we had difficulty in fording before we rejoined the track that had brought us into the eastern Wakhan.

In all, we noted about 300 species of flowering plant during our month's visit. The flora of the Wakhan has close affinities with that of the neighbouring Pamirs, the eastern Hindu Kush, the Karakoram and the western Himalaya as far as central northern Nepal. In general, the further east one goes the richer is the flora (the greater the number of species). All these areas are dominated by low rainfall; they are not affected by the Indian Monsoon. The winters are long and harsh and the summers short and dry. Plants have a short growing season and have to flower, seed and put on new growth in relatively few weeks, especially at the higher altitudes. Although some of the species are typical of much of the western Himalaya, others are associated with central Asia and the Arctic regions.

The future of the Kirghiz in the Wakhan is doubtful. If rumours are to be believed, the Russians have moved into the region and established

several landing strips so that this isolated finger of land has become of strategic importance to the whole of central Asia. Whilst such events have overwhelmed this little known region, attempts to conserve a tranquil and pleasing way of life and of conserving such rarities as the Marco Polo Sheep or, of course, exploring the region further, have all been severely jeopardised.

