

THE SOURCES OF THE SUBANSIRI AND SIYOM

authored by **F. Ludlow** | published in **April 1, 1938**



View of Mountains south and south-east of Lhasa across the Kyi Chu, after an exceptionally early fall of snow, on the 21st October 1936. The pyramidal peak on the sky line near the centre, 18,274 feet, is the one referred to by Mr. Chapman. The route to the Minghu La, or Trango La, lies up the valley to the right of it. Lhasa city appears on the extreme right. The walled enclosure in the foreground is the Trap-Shi, the barracks, arsenal, and mint.



PRIMULA CAULDORIANA Kingdom-Ward



PRIMULA ODONTICA W.W.Sm.

The following account describes our journey in 1936 to the sources of the Subansiri and Siyom in greater detail than the short note which appeared in last year's Journal. This journey was the third we had undertaken in the eastern Himalaya in search of natural history specimens. In 1933 Mr. G. Sherriff and I collected in western and central Bhutan; in 1934 we worked eastern Bhutan and the Tibetan province of Monyul; in 1936 we decided to continue eastwards and work the upper basin of the Subansiri.¹

These three journeys formed part of a general plan, which we conceived some years ago, of working the Himalayan range, botanically and ornithologically, from the western frontier of Bhutan to the bend of the Tsangpo. There remains a fourth journey which we hope to complete in 1938.

In the account that follows, the heights have all been worked out and checked at Dehra Dun from hypsometric readings taken on the journey. All the illustrations, including those in natural colours, are from photographs taken by Sherriff. The map was also drawn by him. I have included a list of all primulas, rhododendrons, and poppies collected on the journey in an appendix which follows the paper.

Owing to the inhospitable nature of the Dafla and Abor tribes inhabiting the southern slopes of the main range, we chose a route to the north which passes through the Tibetan districts of Chayul, Charme, and Tsari. The consent of the Bhutan and Tibetan governments having been obtained, we left Kashmir on the 9th February 1936 for Diwangiri on the Assam-Bhutan frontier. Dr. Kenneth Lumsden came with us as medical officer. He had many patients during the course of the journey, but no member of our party, I am glad to say, gave him any trouble.

¹ Summaries of these three journeys have appeared in *Himalayan Journals*, vol. vi, 1934, pp. 143-5; vii, 1935, p. 148; ix, 1937, pp. 144-7

A few days before starting we learnt to our dismay that Captain Kingdon Ward had just returned from one of his classic expeditions to the eastern Himalaya, and that he had traversed the very area we intended to visit.² Although plant-hunting was not the only item on our agenda, it was, perhaps, the most important; and we realized that if Kingdon Ward had made the upper Subansiri the centre of his activities, there was little hope of new discoveries. We therefore wrote explaining the situation to him. Back came a reply by return air-mail giving his itinerary and recommending areas likely to yield profitable results. He emphasized the hurried nature of his visit, the richness of the flora, and ended up by assuring us that he had not collected a tithe of the wonderful plants that grew. It was a generous and comforting letter, and it sent us on our way rejoicing.

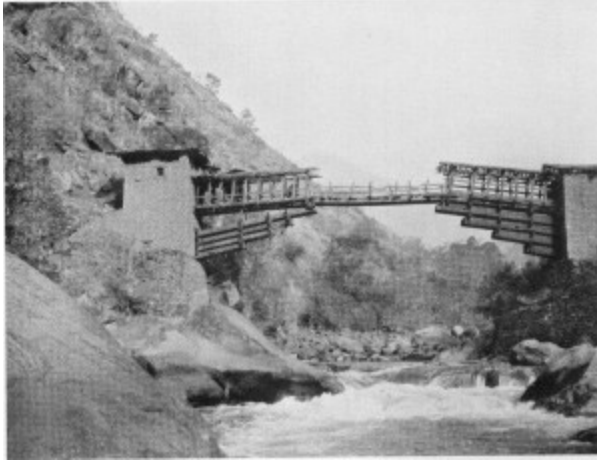
We reached Diwangiri on the 14th February, where we spent a week collecting birds and reorganizing our baggage. We were rather ashamed of our eighty loads, but as we were a party of ten in all, and planned to be away for nearly a year, it could hardly be helped, though certainly none of us belonged to the 'wash-your-face-in-the-frying-pan' school of travel. On the day we left Diwangiri, the 22nd, four skeins of grey-lag geese passed low over camp, battling against an adverse wind. They were migrating, and we watched them through glasses circling to gain altitude. This attained, they headed due north, and we calculated that they would be over the Tibetan plateau in four hours, whereas we, with much toil and labour, would take four weeks.

At Ghungkar (6,500 feet), where we halted for three days amidst the flaming red blossoms of *Rhododendron arboreum*, we discovered our first primula in flower at a little over 6,000 feet, which in these latitudes is low for primulas. This was *Primula filipes*, discovered in this very locality by Dr. Griffith a century ago. In June 1934 we had found two new primulas on this

² Himalayan Journal, vol. viii, 1936, pp. 125—9

rain-swept Chungkar ridge. One of these, *Primula Sherrijfae*, a lovely lilac flower with a very elongate corolla-tube, received the Royal Horticultural Society's Award of Merit in 1936. It is raised easily from seed and promises to grow into an even finer plant in England than it is on its native soil. From Ghungkar we passed on to the Yonpu La (8,000 feet), a pass on a spur overlooking Trashigong. Our camp on the grassy downs on the summit commanded entrancing views of the snowy range to the north. Within the splash of cascades grew the pink *Primula Boothii*. A week later we found its near relative, *Primula Whitei*. Both are charming primulas, well worthy of cultivation. At the time of our visit, however, neither had been introduced into home gardens. On our return in the autumn, we sent living plants by air-mail to the Royal Botanic Gardens, Edinburgh, where they bloomed in 1937.

On the Yonpu La we obtained three specimens of Beavan's Bullfinch (*Pyrrhula erythaca*). So scarce is it in collections that the female was unrepresented in the National Collection at South Kensington until we procured it on this pass. We were elated, but a few weeks later we found it abundant on the upper Subansiri, so the bird is not so rare after all. There are exceptions of course, but a plant or animal is seldom rare in a state of nature, though Man may make it so by persecution and interference. Once the real centre of distribution of plant or animal is discovered, it is generally found to be common. An example of this is Beavan's Bullfinch. Its real home is in the Assam Himalaya where no collecting has ever been attempted; Sikkim, whence it was previously recorded, is on the extreme fringe of its distribution, a fact which accounts for its supposed rarity.



Cantilever Bridge over the Kulong Chu, Eastern Bhutan

We reached Trashigong on the 2nd March and were received with great hospitality by our good friend the Dzongpon whom we had met in 1934. In his early days he had been a mendicant monk, and had travelled extensively in Bhutan and Tibet. Then, abandoning his vagabond life, he had settled in eastern Bhutan where his administrative ability was soon recognized, and he became governor of an important frontier district.

At Trashigong we received a present of two maunds of fresh butter from His Highness the Maharaja, and one of a maund from the Dzongpon, so we did not suffer from a deficiency of fats in our diet. This supply lasted for many months, and never became rancid. We were informed that no preservative was used in its preparation, that it was washed thoroughly, and that it would keep fresh until we had finished it. We were sceptical, but fresh it remained. Why, I cannot explain.

Lumsden had many patients during the three days we spent at Trashigong. Goitre was very prevalent, also leprosy, and there were several cases of cataract.

It was still early in the year for flowers, and as there was no point to be gained by reaching the upper Subansiri much before the end of April, we set off on an excursion up the valley of the Gamri Chu. At the end of the first stage the party split up; Sherriff went south over the Choling La (11,100

feet) to Mera, whilst Lumsden and I continued up the valley to Sakden. Here Sherriff rejoined us on the 13th March by way of the Nyuksang La (13,600 feet). This part of Bhutan has never been surveyed, so the existing map (78 m) is conjectural and difficult to understand.

Wherever we went in Bhutan prepared encampments always awaited us, many of them elaborate with structures. One camp, in particular, in the Jiri Chu valley impressed us greatly. There were separate bamboo huts for the three of us, and a summer-house in which to have our meals. The latter was decorated with orchids and huge epiphytic harts'-tongue ferns. Avenues of tree ferns and wild bananas shaded the pathways which led from our quarters to the summer-house. Inside, our huts were furnished with bamboo tables, chairs, and beds. The floors were strewn with the freshly plucked needles of *Pinus longifolia*. There were quarters for our servants, a cook-house, and stables for our mules. Thus we roughed it in Bhutan!

We returned to Trashigong on the 18th March and left the following day for the valley of the Nyam Jang Chu.

A steep descent of a thousand feet brought us to a fine chain suspension bridge over the Dangme Chu, or Manas river. This bridge is approximately 200 feet long, 6 feet broad, and hangs 50 feet above the river. The footway and sides are of bamboo matting to permit the passage of animals such as ponies and cattle. The iron links of the chains are a foot in length, and the chains themselves are attached to wooden blocks built into masonry piers at either end. This is the only chain suspension bridge I have ever seen in Bhutan, but there are several in Tibet. There is one, for instance, over the Tawang Chu; a second spans the Sutlej at Toling; and in former days a third bridged the mighty Tsangpo at Chaksam near Lhasa. Who forged the iron links of these chains? The answer to this question I have never discovered. The local inhabitants are entirely ignorant of their history.

A day's march up the river brought us to the junction of the Kulong Chu which we crossed by a massive wooden cantilever bridge. Massive is certainly the correct term to apply to things Bhutanese. Bridges are built to last for generations; dzongs are designed to house the whole country-side in time of war; whilst the people themselves are veritable Sandows, though this is not so apparent in eastern Bhutan as in other parts of the country. On the 21st March we reached Changphu. A few hundred yards beyond the village a dry watercourse was pointed out to us as the Tibetan frontier. We were astonished that such an insignificant geographical landmark should be used as a boundary when the large Nyam Jang Chu valley was only a short distance ahead. But the Tibetan has not the passion for watershed and river boundaries that we Europeans have—a fact which has led in the past on several occasions to misunderstandings in frontier disputes. We now entered the valley of the Nyam Jang Chu which Bailey and Morshead discovered in 1913.

As befits a river which has cut its way through the main range, the valley is built on magnificent lines. It is nowhere wide, but the mountain slopes on either bank tower precipitously upwards to great heights and are densely forested. At Pangchen and Lepo the river meanders silently through grassy meads, but elsewhere it is a swift torrent. It pierces the main range a few miles above Trimo where it is confined to a narrow gorge. At the junction of the Tsuk Chu the river bed is so clogged with gigantic boulders that the waters are invisible. Despite the precipitous nature of the valley, there are numerous villages. The inhabitants as far as Trimo are Monbas, and are under the jurisdiction of Tawang.



A Monba girl, Nyam Jang Chu valley



Brahminy Duck at Tsona



The Chayul Valley above Chayul Dzong

We halted at Trimo for two days to arrange transport for the crossing of the Po La into Tibet proper. Serow and barking-deer fed in the barley-fields close to our camp. The Monba may be a hunter in other parts of Tibet, but it was evident that he did not molest wild animals in the valley of the Nyam Jang Chu.

The hill-sides were now gay with many species of rhododendrons, whilst the magnolias at 8,000 feet were superb. As yet, however, we had found few primulas; the height of the primula season was still many weeks ahead, and we could afford to wait.

On the 12th April we started off up the Trimo valley for the Po La. The path was steep but good, and we reached the summit by noon (14,900 feet) after an ascent of 4,000 feet in 6 miles. There were 2 feet of snow on the pass. The descent on the far side was trifling. Undulating country stretched away in front of us for mile upon mile; we had reached the Tibetan plateau in one huge step. In a very short time we joined the Tawang road which we had traversed in 1934, and reached Tsona in the late afternoon. We camped near the steaming thermal springs.

Tsona was just awakening from its winter sleep. Two primulas, *atrodentata* and *pumilio*, were already in bloom. The bar-headed geese on the lake were in pairs; brahmyn duck were inspecting nesting-sites in cliffs and ruined buildings; the screams of gulls brought recollections of the sea-side.

Tsona is a trademart of some importance, but apart from this it has nothing to commend it. Like Phari it is a collection of filthy hovels on a wind-swept plain. We spent three days at the place, and then left for the head-waters of the Subansiri. With a caravan of forty skittish yaks we struck eastwards across the bleak plateau, passing a number of gazelle, ammon, bharal, and kiang.

On the 18th April we crossed the Nyala La (16,990 feet) which is on the watershed between the Manas and Subansiri, and followed the Loro Karpo stream down to the little village of Loro To where we exchanged our Tsona transport for zhos and donkeys. From there we descended a wide arid valley eastwards to Chayul Dzong. On the way, at Tongme Gompa, the Loro Nakpo joins the Loro Karpo from the south, and it was here that we first struck Kingdon Ward's route of the previous year.

We found no flowers of any note save a pretty iris which grew in abundance on the borders of cultivation. Of birds there were two new sub-species—a form of the Giant Babax (*Babax Waddelli* sub sp.), and one of the White-browed Rose Finch (*Propasser thura trans-himalayensis*). Another very interesting bird was Prince Henry's Laughing-Thrush (*Trochalopteron Henrici*) generally supposed to be a great rarity, but like so many other birds whose real home is in south-eastern Tibet, it is rare only because it inhabits inaccessible country. In the upper Subansiri and in the Tsangpo valley it was common. We saw it every day. It was the dominant laughing-thrush in these districts.

We found the Chayul Dzongpon anxious to do everything in his power to help, and as his word was law within his district we were fortunate. He

readily agreed when we asked his permission to descend the Chayul river as far as Lung, and told us he would send men with us who understood the Loba dialects.

We left Chayul on the 24th April. A mile beyond the dzong the Nye Chu comes in on the left bank. Junipers and wild gooseberries now began to appear, whilst high up on the northern slopes of the main range we could distinguish conifers and rhododendrons. We were fast approaching a wetter zone. Three miles beyond the village of Kap we crossed to the left bank by a high and shaky bridge, and then ascended a cliff face by an almost vertical ladder 40 feet high.¹ The gorge country we were now passing through was most imposing and the side valleys that came in on either bank were mere gashes in the mountain-side.

We halted for the night at Tron. Three miles beyond this village we came to a rocky spur which we were informed was the frontier. Here a dramatic change came over the scenery. Conifer forest and a dense undergrowth of shrubs clothed the hill slopes and descended to the river's edge.

The day's march yielded a rich harvest of flowers. We camped on a grassy flat at Natrampa and halted the following day to explore the surrounding country. There were a few deserted huts and abandoned fields at Drotang, whence a track led up to the Kashong La (16,400 feet), a pass on the Great Himalayan range.

Here we were able to correct a slight error on the map of Bailey and Morshead, for the Karutra temple is a few miles north of the Kashong La and not below Lung.

On the 27th we marched 7 miles down the right bank of the Chayul Chu to Lung (9,500 feet). The path was rough but presented no real obstacle except in one place, where notched logs led up a cliff face. A mile above Lung the Char Chu tumbles head- long down a terrific gorge. The valley widens below

its confluence with the Chayul Chu and we found a good deal of abandoned cultivation.¹

¹ See Himalayan Journal, vol. ix, 1937, frontispiece.



Ynan Blood Pheasant



Lobas from the Kashong La

Lung consists of half a dozen ruined houses, the sole occupants of which were an old man and woman. We camped by a spring midst a pigmy forest of *Lilium giganteum*. A yellow peony, *Paeonia lutea*, grew everywhere, and the hill-sides were ablaze with rhododendrons, most of which were new to us. We were still too early for primulas, however, the wine-red Roylei and the blue Whitei alone being in flower, though it was obvious that this part of

the Himalayan range was a botanist's paradise, to which we must return at a later date.

The avifauna of the Chayul valley gave much food for thought. All the five pheasants between Lung and Natrampa differed from those of the Manas basin. We had entered a new area where the influence of western Chinese forms of bird life was becoming very apparent. These five pheasants were, Elwes's Horned Pheasant (*Crossoptilon Harmani*); the Tibetan Pheasant (*Tetraophasis Szechenii*); Temminck's Tragopan (*Tragopan Temminckii*); Sclater's Monal (*Lophophorus Sclateri*); and the Yunnan Blood Pheasant (*Ithaginis Kuseri*).

During our halt at Lung we met a party of Lobas ascending the valley with huge bundles of madder. As soon as they saw us they dropped their loads and fled, but after a time we were able to reassure them, and a very picturesque lot of ruffians we found them.

The majority wore skins of animals such as takin, barking deer, and monkeys. A few had black shoulder capes which at first sight looked like bear skins, but eventually proved to be made of palm fibres. Many wore close-fitting bamboo skull-caps furnished with a spout. This was kept in place by a brass or wooden skewer which pierced a knot of hair hanging over the forehead. Some had lammergeyer's feathers stuck into their head-gear.² All carried bamboo bows about 4 ½ feet long, iron-shod at one end, which they used as a khud stick whilst on the march. Their arrows were smeared to the barb with the deadly aconite. Many bore long lances and clumsy swords. They smoked tobacco continuously out of metal pipes. The head-man had a two-pronged musket, and wore a chuba reaching to his knees. His gay young wife looked like a Tibetan and dressed like one. Aware of her good looks she enjoyed being photographed.

We met these semi-barbaric tribes on several occasions and frequently sought their help to show us the jungle paths, but they always failed us.

They cross the main range into Tibet annually for purposes of trade, carrying heavy loads of madder, rice, and cane, which they barter for salt, cloth, and swords. They are allowed to visit certain trade-marts only, and are not permitted to wander about the country at large. Tibetans, when speaking of their savage neighbours, do not distinguish between the various tribes, but lump them all together under the comprehensive term *Lob a*. It is a convenient word and I have used it frequently in this article to hide my ethnological ignorance.

1 See illustrations, opposite pp. 145, 146, *Himalayan Journal*, vol. ix, 1937.

2 See illustration opposite p. 144, *Himalayan Journal*, vol. ix, 1937.

Our next objective was the monastery of Sanga Choling. Our quickest route thither lay up the gorge of the Char Chu, but the bridge over the river at Raprang was reported unsafe. The Drichung La route followed by Kingdon Ward was still deep in snow. We therefore returned to Chayul Dzong and crossed into the Char Chu valley by the Le La (17,100 feet). We halted at Kyimpu in a rhododendron fairyland where we found *Primula hyacinthina* in flower.

Sanga Choling is situated in a gorge, and like many other Tibetan towns one comes on it with unexpected suddenness. The monastery is a striking building with golden spires on its roofs. We were ushered into a private garden, for a suitable camping-ground was hard to find in this narrow gorge.

A pretty Tibetan girl took a keen interest in the pitching of our camp. Her cheeks and lips were nearly as vivid as the labels on our 'Craven A⁵ cigarette tins. 'Cosmetics', we sighed, dismayed at the thought that rouge and lipstick should have penetrated Tibet! We were wrong, however, for the complexion was quite natural, and the young lady was none other than the daughter of the late Drukpa Rimpoche, the holy incarnation of the monastery. Personally, I had no idea that incarnations married; but again I

was wrong, for 'Rosy Cheeks' intimated that her mother would like to call on us. 'Was it convenient?' 'Of course,' we said. 'Delighted!' And delighted we were, for mother was as charming as her daughter and sat down and chatted merrily away as if she had known Europeans all her life.

Sanga Choling lies midway between the valleys of the Tsari Chu and Chayul Chu. We had already decided to work these two valleys intensively for flowers, so the monastery offered obvious advantages as a base.

Having deposited our surplus baggage with our kind hostess, we left on the morning of the 14th May with the monastery mules for transport. There was no holding the animals. They knew they were bound for the lush meadows of Tsari, whither they are sent each spring to graze, so they came along at a spanking pace. We camped at Zimsatti at the south foot of the Cha La (16,600 feet) and the following day crossed the pass and descended to Chosam.

The whole of the Tsari valley is extremely wet; and, below Ghosam, its mountain slopes are densely forested. Why this should be I cannot explain. The head-waters of all the other branches of the Subansiri are dry until a point is reached where they cut through the main Himalayan axis. In the case of the Tsari Chu this occurs two stages below Ghosam.

Tsari is holy ground. The circuit of the mountain called Takpa Siri is an act of merit which attracts pilgrims from various parts of Tibet. No life may be taken within the valley, and no crops grown. The inhabitants of the various villages subsist entirely on the money they can earn by providing transport for the numerous pilgrims, and by begging in outlying districts.

There are two pilgrimages, a long one and a short, called respectively in Tibetan, Ringkor and Kingkor. The former takes place every twelfth year and

occupies a month. The latter is an annual pilgrimage which is completed in a week or ten days.³

A few miles below Chosam the valley widens out into the extensive Senguti plain which is 6 miles long by half a mile broad. The magnificent Shou or Shao, the Sikkim stag, still enjoys sanctuary in the virgin forests of this beautiful valley. We found a very symmetrical pair of horns at Chikchar, where, according to local information, this animal grazes with the cattle in winter.

From Chikchar we passed on down the valley to Migyitun. From Podzo Sumdo, midway between these two places, a track branches off northwards to the Bimbi La (15,700 feet).

On the Survey of India ½ -inch map 82 h this track is incorrectly shown taking off below Podzo Sumdo. The Tso Kar lake is also erroneously placed on the right bank of the river half a mile north of Migyitun. It should be on the left bank of the Tsari Chu 9 miles east of Migyitun.

The Tsari Chu falls in a continuous cataract between Podzo Sumdo and Migyitun and appears to be cutting its way through the main range. At Migyitun the valley widens and there are many scattered houses and a good deal of cultivation.

The interdiction as regards the taking of life and growing of crops does not apply here. Although, politically speaking, Migyitun is in Tibet, the people did not appear to us to be true Tibetans. They seemed to have Loba blood in them, indeed many appeared to be true Lobas. The unfortunate inhabitants of this village must be the most tax-ridden people in the world, for not only do they pay taxes to Sanga Choling, Kyimdong Dzong, and Guru Namgye Dzong, but also to the Lobas as well.

³ ¹For a few additional notes on these pilgrimages, see *Himalayan Journal*, vol. ix, 1937, p. 145. An illustration of Chikchar, the starting-point of the Kingkor, faces p. 147 of the same volume.

We spent nine days at Migyitun and explored the country in all directions. We then returned to Podzo Sumdo and camped halfway up the valley leading to the Bimbi La where we discovered a new species of willow warbler (*Phylloscopus tibetanus*).

Botanically the Tsari valley was fulfilling all our expectations. Hardly a day passed without the discovery of some desirable plant. The flowering season was now at its height, and we were anxious to be in a dozen different places at once, so tortured were we with the fear of prizes eluding our grasp. We therefore devised the following plan and separated. Sherriff was to return to Chikchar, work the Kingkor, and then cross the Drichung La into the Chayal valley and collect on the main range above Lung and Natrampa. Lumsden and I were to go east into Pachakshiri, and then visit the Tsangpo valley. We agreed to reunite at Sanga Choling on the 31st July.

On the 12th June we parted, and I must now ask the reader to accompany Lumsden and myself to Pachakshiri.

Crossing the Bimbi La, we entered the drainage basin of the Tsangpo, and descended to Kyimdong Dzong, a miserable towerlike fort perched on an alluvial fan. Above Kyimdong Dzong we found Kingdon Ward's Giant Cowslip *Primula* (*P. florindae*) growing to perfection near some springs. Some of the plants were nearly 4 feet in height. We also found *Primula jaffreyana*, and a pretty violet iris, *Iris decora*, which only opened its flowers in the day-time. We stumbled on a black bear with cubs, and were astonished to see flocks of paroquets (*Psittacula derbiana*) feeding in the fields.

From Kyimdong Dzong we turned east up the Palung Chu, crossed the Lang La (16,100 feet) which yielded a number of rare *Parnassius* butterflies, and descended the Ne Chu to Molo. Here we reached a large river, called the Langong Chu, draining from the south. It contained so large a volume of water that we suspected it must drain a much more extensive area of the Himalayan range than was shown on the map. And so it proved.

As far as Molo we had travelled in Kingdon Ward's footsteps. We now left his route and turned south up the Langong Chu towards Pachakshiri, a district no European had ever visited before. Quitting Molo on the 25th June, we marched 12 miles up the left bank of the river until we came to the encampment of Singo Samba where a small stream comes in on the right bank from the Lo La. We crossed the Langong Chu by a bridge made from a flattened tree-trunk which was raised on stone piers 20 feet above the river. There was no handrail, the tree-trunk quivered horribly, and I found the crossing very trying. But Lumsden made light of it. We were obliged to halt at Singo Samba for a week whilst our coolies returned to Molo to attend an annual fair. We chafed at the delay. Our camp was very circumscribed, the roar of the river in spate was deafening, and we were tormented with biting midges. Moreover, we were anxious to push on into Pachakshiri. Singo Samba, however, possessed one advantage which compensated us for every discomfort. We were within reach of the easy Lo La (13,600 feet



Hills above Migyitun



A Loba from Migyitun

My visit to this pass gave me one of the greatest thrills of my life. On its northern slopes, in a region of incessant rainfall, grew the most amazing variety of plants I had ever seen. Day after day we scoured the hill-sides, and always we returned with a bulging press and floral treasures new to our collection.

I am no botanist, but I am interested in Himalayan ornithology. Immediately we entered the Subansiri basin I was struck with the number of forms of bird-life characteristic of south-west China, i.e. Szechuan and Yunnan. The pheasants already referred to are a good illustration of this point. There are many others. As we proceeded eastwards the evidence grew, and I began to wonder if the plants we were collecting would also show increasing affinities with south-west China. It seemed a logical supposition at the time, and though the whole of our collection has not even yet been worked out, enough has been done to show that this is so. As an instance of this, we obtained in all more than sixty different species and varieties of primulas of which at least 30 per cent, occur in the Chinese provinces of Yunnan and Szechuan.

Geologists inform us that the Himalayan chain bends southwards east of the Tsangpo gorge, but botanical and zoological evidence seems to indicate a continuation eastwards into south-west China. This, however, is a controversial subject, and it is time we returned to our alpine garden on the Lo La. Only the briefest reference to a few of the most outstanding plants can be made.

First of all there was a new yellow rhododendron belonging to the *Lepidotum* series. Then there was *Rh. campylogynum*, a Yunnan shrub from 3 to 4 feet high bearing clusters of flowers the colour of muscatel raisins, glaucous bloom included. Another extraordinary rhododendron was a shrub which crawled along the ground bearing one, and sometimes two, scarlet flowers, as vivid in hue as the uniform of a government chaprassi. This was *Rh. repetis*, which also is known in south-west China. Amongst the primulas, *P. Valentiniana* grew in crimson mats on the summit of the pass; *P. vernicosa* spangled the sodden turf laid bare by the melting snow.

There were four new species of primula. The most beautiful I have named *P. Elizabethae* in honour of my mother. It is allied to the lovely Chinese *P. Agleniana*, and is remarkable in that the scape bears one, occasionally two, rarely three, huge primrose yellow flowers inches in diameter. Another new species, almost equally lovely, was a plant bearing flowers of the darkest damson, *P. laeta*. The two others were a small plant *P. subularia*, and *Omphalogramma brachysiphon*.

We left Singo Samba on the 2nd July, but as our coolies arrived late we were forced to camp 500 feet from the summit of the pass. The next day we crossed the Lo La and descended abruptly a boulder-strewn watercourse. The track was execrable and the rain merciless. After 7 miles we camped in a forest clearing called Shingja (10,700 feet). On the 4th July we continued along the banks of the Chudi Chu for another 6 miles. The track was again

heart-breaking and we found it impossible to average much more than a mile an hour.

From the Lo La we had so far been marching due south. We now turned east and ascended the Nyug La (11,300 feet) a minor pass on a spur running south from the main range. We halted at 9,000 feet in the forest and spent the next five days collecting, whilst our interpreter went down to Lhalung to obtain supplies and coolies. Lhalung—not Halung, as on the map—is roughly 12 miles from the Nyug La. From the pass the track descends eastwards to the unfordable Chachurong Chu which is crossed by a felled tree, and then ascends to the Kargong La, another minor pass on a spur. From this pass there is a descent of 3 or 4 miles to the Lhalung Chu which is spanned by a good bridge. Two miles farther on is Lhalung, one of the many villages in the valley, where there is a small monastery, called Lhatse Gompa, containing fifteen monks. The Chudi Chu, Chachurong Chu, and Lhalung Chu all unite to form a large river called the Yargyap Chu which must be the Pachakshiri name for Siyom. No altitude was obtained for Lhalung, but it is probably about 7,000 feet, as rice, maize, and chillies are grown. The inhabitants are Monbas and Lobas, and the country belongs to the Lhalu family in Lhasa. From the Nyug La we retraced our footsteps to Singo Samba where we decided to follow an unexplored route to Kyimdong Dzong via the Pa La. From Singo Samba to Langong is 14 miles. Four miles above Singo Samba a pilgrim route branches off southwards to a holy mountain called Tsari Sama which must be either on, or very close to, the main range.



PRIMULA IOESSA W.W.Sm



PRIMULA CONSOCIA W.W.Sm

We did not explore this route but followed up the Langong Ghu for another 10 miles to Langong (12,100 feet). The river gradually bent westwards until at Langong itself it was flowing very nearly west and east and running parallel to the main range. Seven miles below Langong the valley widened out into magnificent grassy meadows which were gay with the many colour forms of *Primula alpicola*.

There is no cultivation at Langong. The inhabitants breed cattle and horses, housing them in winter in well-constructed wooden huts.

On the 18th July we left Langong and marched up the broad valley for 2 miles when a large stream came in from the south. There is a pass at the head of this valley over which Marang Lobas come in the autumn. This pass is also called the Lo La, and it would appear that, in this district, any pass used by Lobas is called Lo La, which is confusing. We continued up the main valley for 3 miles, when suddenly and unexpectedly we turned first north and then north-west and ascended by steep zigzags to the Pa La (16,200 feet) rising 4,000 feet in 4 miles.

The Pa La, apparently, is on the same northward-trending range as the Lang La and the existing J-inch map (82 h) hereabouts is at fault. On crossing the Pa La we entered the valley of the Ka Chu which is shown on the map as flowing into the Palung Ghu, whereas in reality it joins the stream from the Bimbi La 3 ½ miles above Kyimdong Dzong.

We reached this latter place on the 21st July, and after a day's halt followed the Kyimdong Chu downwards for 4 miles till it joined the mighty Tsangpo. The dignified and majestic flow of this river, its vast volume, and its gigantic whirlpools and eddies, impressed us greatly.

We now marched up its right bank for 10 miles to Tungkar Gompa and camped at Nge where flocks of paroquets were feeding on the crops which were being reaped.

Above Nge the Tsangpo enters a gorge. The road leaves the river and climbs steeply to the summit of the Kongbo Nga La (14,570 feet), a pass on a spur running down to the Tsangpo. We halted on the summit for lunch, picked mushrooms, and caught butterflies. Amongst the latter were two specimens of the Camber- well Beauty. From the pass we dropped down to the village of Chote Shu near Nang Dzong, and then turned south up the unexplored Laphu Chu valley. On the second day we came to a chain of four lakes a few miles below the summit of the Sur La (16,000 feet). The name given to this

area is Tsobunang, and I cannot recall a more beautiful encampment in all my Himalayan wanderings.

The lakes were transparently clear and were fed by a stream from the Sur La. The two upper lakes were ½ mile long by 300 yards broad, and the lower ones smaller. On either side fir and rhododendron forest crept down to the water's edge.

From Tsobunang a steady ascent of 2,500 feet in 3 miles led to the summit of the pass, where we saw Chosam almost vertically below us, and only a mile distant.

From here we returned to Sanga Choling via the Cha La, where we met Sherriff on the 30th July and eagerly exchanged notes.

Lumsden and I rather prided ourselves on our collection of flowers, but when we compared our results with Sheriff's much of the conceit was taken out of us. We had done well, undoubtedly; but Sherriff had done very much better.

From the Takpa Shiri circuit came a rare white poppy (*Mecconopsis argemonantha*) first discovered by Bailey on his adventurous journey with Morshead in 1913, and a unique yellow variety of *Meconopsis horridula*.

Of primulas—and here. I must confine myself solely to new species—there was a deliciously fragrant Sikkimensis with pendant clusters of violet bells. This was *P. ioessa* from the Tama La.

From the hills above Chikchar came *P. odontica*, first cousin to *P.*

Valentiniana, which grew in such profusion in certain areas as to make the hill-sides blush; and *P. tsariensis*, a lovely purple flower belonging to the *Petiolares* section. In addition to the above were *P. jucunda*, happily named, and a new mauve variety of *P. vernicosa*.

From the Drichung La, overlooking the Chayul valley, came the gem of the whole collection—a new poppy, rose-pink like the first flush of dawn on the snows. Very appropriately it bears the name of its discoverer—*Meconopsis Sherriffii*.

From the Kashong La, on the main range above Natrampa, came two new Petiolarids, *P. chamaedoron* and *P. hilaris*; the former violet with flowers over inches in diameter, and the latter pale yellow with a large orange eye, almost equally large and imposing. *P. barbatula* belonging to the Bella section was a small pretty flower which crowded the rocky hill-slopes at 15,000 feet.

Of rhododendrons Sherriff had obtained no fewer than twelve new species and two new varieties. Perhaps the two most striking species were *Rh. Sherriffii*, a tree 20 feet high bearing flowers of the deepest crimson, and a shrub 4 feet high which bore similar coloured flowers. This latter has been named *Rh. Lopsangianum* after the late Dalai Lama of Tibet, an ardent flower lover.

One of the new varieties, *Rh. lanatum* var. *luciferum*, was of local economic value. The dense indumentum on the under surface of the leaves is stripped off in large quantities and sent to Lhasa, where it is rolled into wicks for the butter lamps in the monasteries.



Primula jucunda



Meconopsis horridula

And now we must return to Sanga Choling and begin a new journey; and as much of our time of late had been spent in the wet zone, we now decided to explore the dry. On the 6th August we therefore ascended the Char Chu to Bung, marching leisurely to Shirap, where we halted at the foot of the Traken La (17,200 feet). The Tibetan partridge (*Perdrix Hodgsoniae*) was very common; also mushrooms of which we were all inordinately fond. Rare *Colias* and *Parnassius* butterflies rejoiced in the sunshine.

We crossed the Traken La on the 12th August, and descended to Karpo, where we found one of the loveliest gentians I know of just coming into bloom—*Gentiana Waltoni*. It is a large plant for a gentian, with stems 15 inches or more in length, bearing from six to twelve sea-blue flowers 1 ½ inches long.

From Karpo we continued eastward crossing two high passes, the Sokpo La (16,900 feet) and Mihrang La (17,300 feet), neither of which is marked on the existing map. We then crossed the Tendong La (16,900 feet), and came out on the Sanga Choling Tsari road a mile north of the Cha La. Then after spending a week at Tsobunang we descended the Tsari valley once again to Migyitun.

Before leaving India we had provided ourselves with packets of vegetable seeds. We had sowed these seeds at various places, Trashigong, Sanga Choling, Migyitun, &c., and now we began to reap our reward. Our garden at Migyitun was terribly overgrown, but we managed to rescue a very welcome supply of carrots, turnips, lettuce, spinach, and cabbages from the rank herbage. The Trashigong garden, however, yielded the best results, and at a later date we obtained from it a wonderful crop of tomatoes.

We spent a week at Migyitun, another on the Bimbi La, and then having dispatched two of our collectors to the Lo La for seeds, we returned to Sanga Choling to prepare for our departure.

Before we left we were invited to lunch. We always enjoyed Tibetan lunches. Perhaps the course we appreciated most was gyathu. It is a kind of spaghetti mixed with minced meat and rice broth, served in pretty China bowls. To this one adds as fancy dictates, morsels of chopped vegetables, chillies, prawns, bamboo shoots, &c. Chang—slightly alcoholic barley water—was of course available, and 'Rosy Cheeks' waited on us and saw that our cups were full.

The most interesting – member of the party was the Chandzo or treasurer of the monastery. He had travelled far and wide, and had many interesting tales of Lhasa, western Tibet, and encounters with Lobas. Then, somehow or other, the conversation turned on doctors. The Chandzo held the British medical profession in high esteem, and insisted on its superiority over the Tibetan profession. I agreed, and laughingly remarked that if one lost a limb, or an eye, or a nose or ear, all one had to do was to pay a visit to the doctor and he gave you a new one.

Lumsden blushed, and a look of incredulity spread over the features of our Tibetan friends. Then suddenly we saw the Chandzo fumbling with his mouth, and before we could realize what was happening he brought his right

hand down on the table with a bang, opened it, and displayed to our astonished gaze a gleaming set of artificial teeth.

'The Sahib speaks truth,' he said. 'Look at that!' We looked, and keeping straight faces with difficulty, politely admired the denture.

On the 27th September we said good-bye to our kind friends at Sanga Choling and left for Gharme. We halted here a couple of days and explored the Char Chu down to the Loba village of Raprang. It is at Raprang that the river cuts its way through the main range and hurls itself down a

tremendous gorge. The change in scenery is startlingly abrupt. Above the village the hill-slopes are comparatively bare, but 4 miles below are the dense forests of Lung. As we stood by the rickety old bridge at Raprang in brilliant sunshine we could see the rain falling in torrents 2 miles down the valley. We watched the dark clouds surge up the gorge, and disappear as if by magic as they met the dry air from the plateau.

In July Sherriff experienced an even more abrupt climatic change on the knife-edge pass of the Kashong La. On the summit and down the southern slopes rain fell incessantly, yet 200 yards below the pass on its northern side, butterflies flew gaily in the sunshine.

On the 1st October we reached Kyimpu, and here we split up forces once more. Sherriff returned to the Chayul valley via the Drichung La to collect the seed of his beautiful *Meconopsis* and other plants on the Kashong La. Lumsden and I returned to Tsona and eastern Bhutan.

Gentians were now at their best. During our trek we obtained approximately forty different species. A rival to *G. Waltoni* was *G. sino-ornata*, which grew in all its glory on a spur behind our camp at Kyimpu. Its lovely trumpets of liquid blue were often massed together in incredible numbers. One patch in particular thrilled me with ecstasy. It grew midst moss on a ruined wall, and within the circumference of a circle 1 ½ feet in diameter were over a hundred blooms.

At Kyimpu we found the Himalayan Crossbill—a bird I have sought in vain for many years. It suddenly appeared on migration, keeping entirely to the larch trees on whose cones it fed. We saw it nowhere else.

We left Kyimpu on the 7th October and reached Tsona a week later. The monsoon was now over, and the icy grip of a Tibetan winter was beginning to be felt on the plateau. At Tsona we were held up for two days by a heavy fall of snow. Then, crossing the main range by the Kechen La, we reached Trashigong on the 28th October via Tawang and Sakden. Here we halted for a while as guests of our good friend the Dzongpon.

Our first night was a very disturbed one. We had been given excellent quarters in the dzong, but at dusk we found our rooms crawling with bugs, so we beat a hasty retreat and put up our camp beds on the crazy pavement of the spacious courtyard. About midnight I was aware of a procession of monks filing into the lha- khang, or house of the gods. They bore images, long telescopic copper trumpets (tungchen), smaller trumpets (geling), cymbals, and other instruments of music. 'A service toward, no rest tonight,' I said to myself. Soon the cymbals clashed, the trumpets brayed, and there were murmurings and intonations from the interior. This went on for hours. I dozed. In a semi-conscious state I heard the patter of hoofs on the pavement, a grunt, a baa. Then I slept. At dawn I awoke with a start. A strange apparition with large flopping ears gazed fixedly at my prone length on the bed. I rubbed my eyes. Was this the twentieth century or the Middle Ages? The apparition resolved itself into a mule accoutered in medieval saddlery and gay silk trappings. A loose tether-rope trailed behind it. I jumped out of bed and gazed around me. The stalls of the courtyard were filled with a variety of animals all bedecked in old-world saddlery and silks. There were horses, mules, cows, sheep, goats, pigs, and, most ludicrous sight of all, a cock, the latter lying exhausted on its side with a gaudy silk scarf bound tightly round its body, vainly endeavouring to crow.

Presently the Dzungpon appeared. He apologized profusely about the bugs, and explained the invasion of the farmyard. Apparently each year during the full moon of the 8th Tibetan month, a special service is held in the monastery for the various domestic animals in the district. It is an annual affair, and our visit happily [sic] coincided with the occasion.

From Trashigong we proceeded to Diwangiri, where Sherriff rejoined us on the 24th November. We had been away ten months, and thirsted for the luxuries of civilization. We ordered up a dozen beer from the refreshment room at Rangiya to celebrate the end of an enjoyable and successful journey.