

LHASA
12087

Gyantse Dz.
13120

Nangkartse Dz.
14500

Kongka Dz.
11500

Lhagyari Dz.
13100

Nang Dz.
10500

Chomo Dz.
14000

Tongkyuk Dz.
23160

Dongkar Dz.
15300

Sang La
17750

Nyis La
17150

Chal La
15300

Cho La
16150

Tsora Dz.
9200

Me La
14950

Le La
10500

Wacha La
15600

Tulung La
17250

Bum La
15000

Milakatong La
14200

Chera La
14200

Dyuri
11800

Trashi Yangsi Dz.
4000

Trashi Gong Dz.
4000

Choling La
10800

Nyuksang La
14100

Orka La
18900

Yonpu La
8500

Chungkar
6500

Satsalor
2100

Phari Dz.
14600

ChOMOLHARI

Trongsa Dz.

Bumthang

SKETCH MAP OF EASTERN HIMALAYA

Statute Miles
 10 0 10 20 30 40 50
 Route: 1934 - - - - - 1936 1938 - - - - -
 Heights in feet

TAKPO AND KONGBO, S.E. TIBET

F. LUDLOW

LARGE tracts of the Himalaya still remain unmapped and unexplored; still larger areas offer virgin ground to the field naturalist.

Not all the ground Sherriff and I planned to work in 1938 was virgin, but a good deal of it was. The main range between the Bimbi La in Tsari and the Doshong La near Namcha Barwa was 'new', and so too was Pachakshiri. As for the rest, Bailey and Morshead in 1913, and Kingdon Ward and Cawdor in 1924 had traversed the Tsangpo valley, but only the two latter had explored the Gyamda Chu. We felt pioneers and were thrilled at the thought. It was good to be living in an age when new lands and flowers and birds still awaited discovery.

We decided to visit the Pachakshiri district first, for it lies south of the main axis and plants would be in bloom there long before they would be in flower on the colder northern slopes of the range.

The route we followed in 1936¹ would probably have been the shorter, but we were fearful of snow in the Tsari district so early in the year, and so chose a more circuitous one which passed through Gyantse, Tsetang, and the Tsangpo valley. We therefore left Kalimpong on the 22nd February 1938 and took the road to Gyantse.

Dr. G. Taylor of the Botanical Department of the British Museum was to have joined us in Calcutta, but cabled shortly before we left Kashmir to say that he had to undergo an operation. This promised to upset our plans, but a few days later we received another cable stating that his operation had been completely successful and that he would like to join us at a later date if possible.

On arrival in Calcutta we rang Taylor up on the 'phone in his London hospital and were cheerfully informed that he proposed reaching India in early April, and that if we would leave behind a cook and instructions as to the route, he would follow in our wake. We suggested Molo as a meeting-place, a small village in the Kongbo province which Taylor had never even heard of, and it speaks volumes for the staff work of the expedition that the very day we returned to Molo from Pachakshiri, Taylor arrived there from England! But this is anticipating. Now I do not propose to say anything about our journey to Gyantse, and from thence to Chaksam

¹ See 'The Sources of the Subansiri and the Siyom', in *Himalayan Journal*, vol. x, 1938, pp. 1-21.

on the Tsangpo, two stages from Lhasa. Tibet is not so strictly 'purdah' as she used to be, and the Kalimpong-Lhasa road has often been described before. Not so the lower Tsangpo, however; this is still worth a little printer's ink.

When we reached Chaksam on the 19th March we found the Tsangpo valley pleasantly warm compared with the bleak plateau we had been travelling over since leaving Phari. Willows and poplars were bursting into leaf, and iris leaves and green grass were already thrusting their way through the sandy soil.

At Gongkar we hired six yak-skin coracles and floated lazily down the Tsangpo to Tsetang, which we reached on the 23rd March. This part of the valley is very wide and the river itself must have been nearly a mile across, and deep enough in the main channel to float quite a large steamer. Great quantities of sand choked the valley and formed extensive dunes on the mountain slopes many hundreds of feet above the river. Every day a violent wind sprang up before noon, raising such clouds of sand as to obscure, on occasions, the sun's rays.

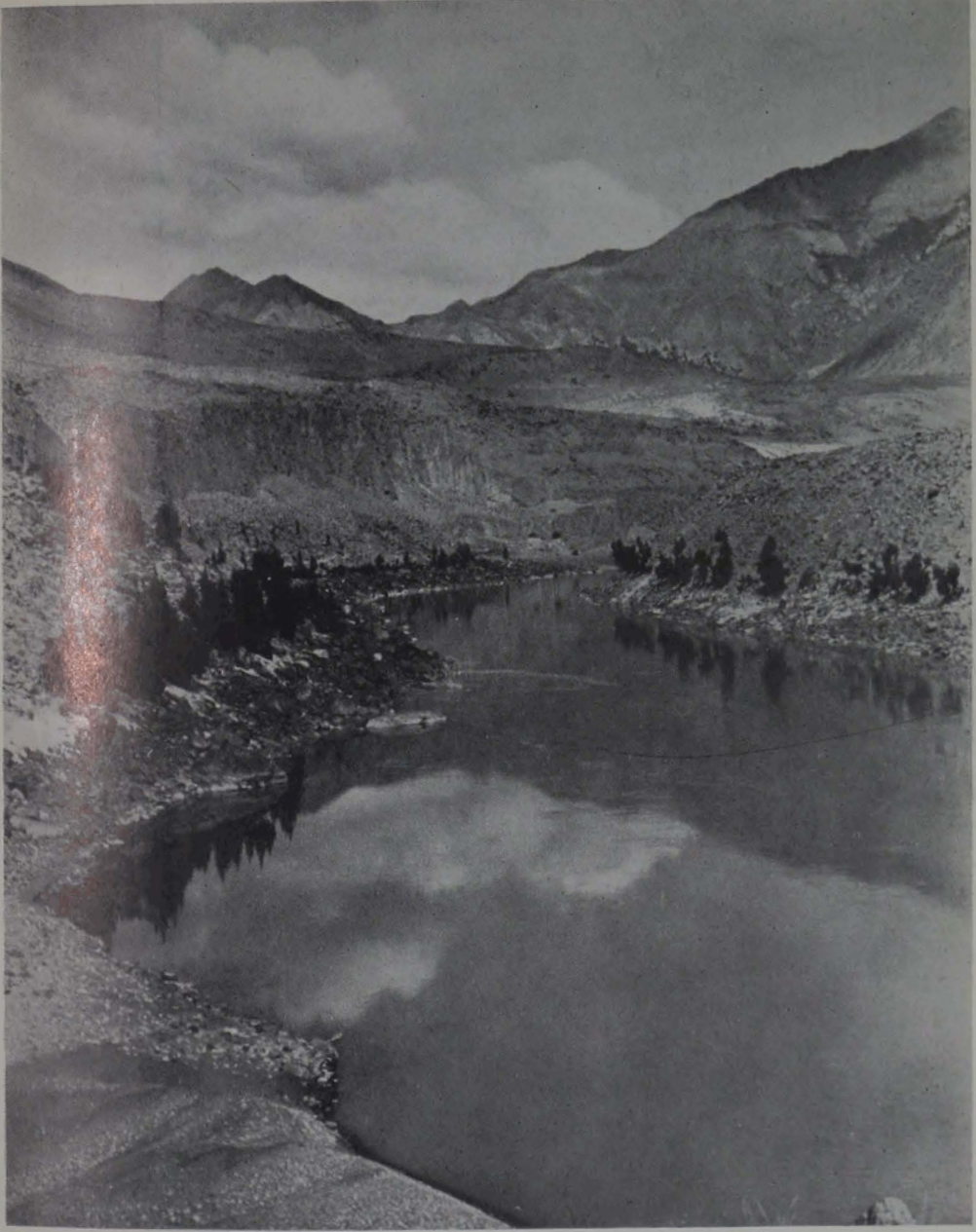
Bar-headed geese, black-necked cranes, and Brahminy duck were seen in large numbers; gulls of two species plied up and down the river, and cormorants dived for fish in its turbid waters. We shot one of the last-named birds with a catapult. It had just swallowed a fish over a pound in weight and was unable to rise. We ate the fish, and our servants ate the cormorant. '*Chacun à son goût!*'

At Tsetang we met a Mohammedan trader named Atta Ullah who had befriended Bailey and Morshead in 1913 and had cashed the former's cheque after he had been robbed of all his money. The old trader produced Bailey's letter of recommendation and also one written by Kingdon Ward in April 1924. He was very proud of both these letters and begged us to give him a third, which we did.

Below Tsetang the Tsangpo cuts through a range of hills and descends in a series of rapids through a narrow gorge. The road now leaves the main valley and ascends that of the Changra Pu Chu to a pass called the Putrang La (16,470 feet). At the foot of the pass lies the rich and important *dzong* of Lhagyari, perched on a cliff in a seemingly impregnable position, overlooking the river.

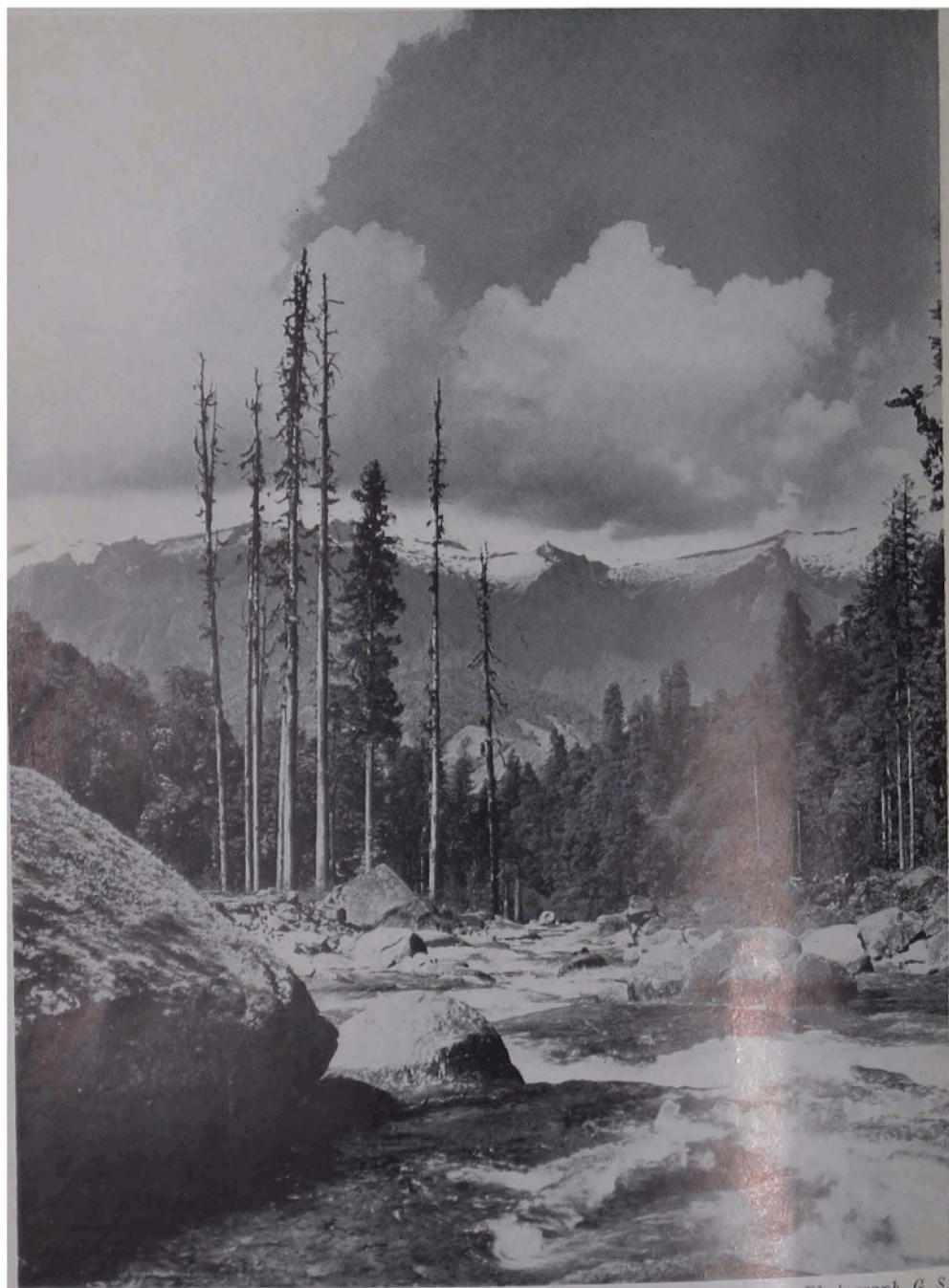
A pleasant surprise awaited us when we reached the summit of the pass.

Except for willows and poplars growing in cultivated areas we had seen no trees since leaving Phari, and now on the eastern slopes of the Putrang La we were obviously on the threshold of a less arid region, for here were dense thickets of rhododendrons (*Rh. velleum*) and patches of birch and juniper forest. Two pheasants skulked



Photograph, G. Sherriff

1. *Junipers lining the Tsangpo, above Nye, 5th April 1938*



Photograph, G. S.

*2. In a side valley near Lhalung, with the Great Himalaya in the background,
5th May 1938*

in the thick undergrowth, the Eared Pheasant (*Crossoptilon Harmani*) and the Tibetan Pheasant (*Tetraophasis Szechenyi*).

From the Putrang La we descended to the level of the Tsangpo at Dzam, where pollarded peach trees with trunks 5 feet in circumference were in blossom, and marched along the right bank of the river to Nang Dzong.

Although the actual bed of the valley was dry and sandy and supported a xerophytic type of vegetation it was evident from the forest on the mountain slopes above us that the rainfall at these higher altitudes was considerable.

At Nang Dzong we again left the river to avoid a gorge, and ascended the Kongbo Nga La which Lumsden and I had crossed in 1936.

Amongst the burnt larch trees half-way up the pass we saw a strange satanic-looking woodpecker about the size of a jackdaw, jet black, save for a flaming crown and crest. This was the Great Black Woodpecker (*Dryocopus martius khamensis*), recorded from Yunnan by George Forrest, but quite undreamt of so far west as the 93rd meridian—another example amongst many of the close relationship between the avifaunas of S.E. Tibet and S.W. China.

At Kyimdong Dzong we were held up for five precious days by the ineptitude of a conceited young *dzongpön* before we could obtain transport for the passage of the Lang La, and we did not reach Molo until the 14th April.

We were now within easy reach of Pachakshiri, though the main range still separated us from our goal. As soon as we mentioned our intention of visiting this district all manner of objections were raised, the most important being that there was still too much snow on the Lo La. But snow on a pass may be a help as well as a hindrance; for if the distance be not too great it may often be crossed at night with the utmost ease when everything is frozen. The Lo La is such a pass. It belongs to the knife-edge type, and we found that there were not more than 3 miles of snow on the north face and 2 miles on the almost vertical south face. This was no obstacle; and after camping just below the snow-line we scampered over the pass before dawn next day, and by sunrise were well down the southern slopes and within the conifer zone.

And now things began to happen.

For two months, almost, we had been tramping over bleak plateaux and sandy wastes with never a flower to waylay the tedium of the day's march.

Suddenly we saw a rhododendron in bloom. It was only a common 'Grande', but the sight of it quickened our pulses, and we plucked a huge truss of its rosy flowers and arranged them, almost

reverently, in the press. As we descended more and more species burst upon our view—blood-red *Neriiflorums*, golden-yellow *Tri-florums*, snow-white *Maddenis*, and many others. *Primulas* too peeped through the melting snow, blossomed by the track, and clung to the rock faces. Though we sank to our knees in quagmires, crawled up notched logs, and stumbled over fallen tree-trunks along the most execrable of tracks, we were happy. The *rhododendrons* and *primulas* were in bloom, and spring in God's great Himalayan Garden had come.

In 1936 I did not visit Lhalung and had then guessed its altitude to be 7,000 feet; but our hypsometer in 1938 made it only 6,300 feet. The Lhalung plain is wide and open, and the hill-slopes to a height of 1,500 feet have been cleared of forest and are covered with rich pasture lands, which support large herds of most excellent cattle.

The Siyom river flows placidly throughout the valley for a distance of at least 7 miles. It is too wide to bridge, and dug-outs are the only means of communication between the villages on either bank.

The Pachakshiri district, as I have already mentioned, belongs to the Lhalu family in Lhasa; it is bounded on the south-east by the territory of the Palo Lobas and on the south-west by that of the Morang Lobas. Both these savage tribes are a source of continual anxiety to the Pachakshiribas.

The Palo Lobas live only a day's march below Lhalung. A few years ago the Tibetan government sent a detachment of troops to Lhalung to punish these Lobas for various offences. But the troops did nothing, and when they retired to Molo the Palo Lobas came up and revenged themselves on the unfortunate people of Lhalung.

At the time of our visit, however, the Pachakshiribas seemed more afraid of the Morang Lobas than the Palo Lobas, chiefly because the former had, during the previous winter, ambushed and killed a number of Lhalung men at Chudi—a stage on the road to Molo at the foot of the Nyug La.

One of the greatest drawbacks to life at Lhalung was the abundance of biting insects, especially a species of *Simulium* which raised an itching blood-blister wherever it bit. I seemed to react more to the bite of this fly than anybody else, and at the end of a couple of days my hands and arms had puffed up to a size which would have rivalled those of the brawniest washerwoman. Eventually I had to wear gloves, despite the heat.

We spent ten days at Lhalung, during which period we obtained several interesting birds. The most important, perhaps, was the Bar-wing (*Actinodura n. daflaensis*), first discovered by Godwin-Austen in the Dafla Hills in 1875, and then completely lost sight of



Primula Littledalei Balf. f. et Watt.

29th June



Primula Valentiniana Hand.-Mazz.

4th June

until we procured it again on the Nyug La. Another interesting bird was the Spine-tailed Swift (*Hirundapus c. nudipes*), a high-speed 'Spitfire' of the air whose cruising speed is anything between 150 and 200 miles per hour.

I must also mention two other birds, Temminck's Tragopan (*Tragopan temminckii*) and Sclater's Monal (*Lopophorus sclateri*). I would not like to say how many fruitless hours we spent in 1936 trying to secure specimens of these rare and beautiful game-birds. The net result of a whole year's labour was one female Tragopan. But in 1938 our luck changed. We had learnt by experience the habits and habitats of these pheasants and within the space of a week obtained all the specimens we wanted, despite the fact that the best valley opening into the Lhalung plain was forbidden ground.

This particular valley was closed because a few months before our arrival a Loba had gone up it to dig pit-falls for game and set traps with poisoned arrows. Whilst so employed he died, and nobody knew where he had placed his traps. So nobody dared venture up the valley!

From Lhalung we returned to Molo by the one and only route via the Lo La, which we crossed on the 16th May. There was still much snow on the pass, and though it was melting rapidly we estimated it would not be clear for another month. By mid-October it would be covered with snow once more, so all the lovely plants that grew there would have just four short months in which to come to maturity and set their seeds.

At Singo Samba the quivering tree-trunk bridge was even more terrifying—at any rate, to me—than it was in 1936, and it was interesting to note the various ways in which we all crossed it. The normal method, of course, was to walk across bolt upright, but some of the gay young lads of Molo took it at the run. On the other hand several went down on their hands and knees and crawled across, whilst a few of the really timid ones had to be blindfolded and carried over.

We reached Molo—I like to be particular about the hour—at 2 p.m. on the 17th May. At 2.30 p.m., before we had even pitched camp, Taylor arrived from England. Since our telephone talk in Calcutta we were completely ignorant of Taylor's plans, and we could only guess the approximate date of his arrival. On the whole I think we guessed rather well.

The ensuing week at Molo was an extremely busy one. Taylor had brought with him a two-months' mail and this had to be read and answered; in addition, there were the specimens to dry, films to develop, and stores and kit to reorganize.

In order to cover as large an area as possible we decided to

separate for the height of the flowering season. Sherriff was to work the main Himalayan range from the head-waters of the Lilung Chu to Tsela Dzong, whilst Taylor and I were to work it from Tsela Dzong to Gyala, and also visit Pemakö. We were to meet at Tsela Dzong on the 31st July. On the 24th May, Taylor and I left Molo and marched down the well-wooded Lilung valley. The Lilung river must be one of the largest affluents that the Tsangpo receives on its southern bank. Certainly there is no other right-bank tributary that can compare with it in volume between Gyantse and the gorge.

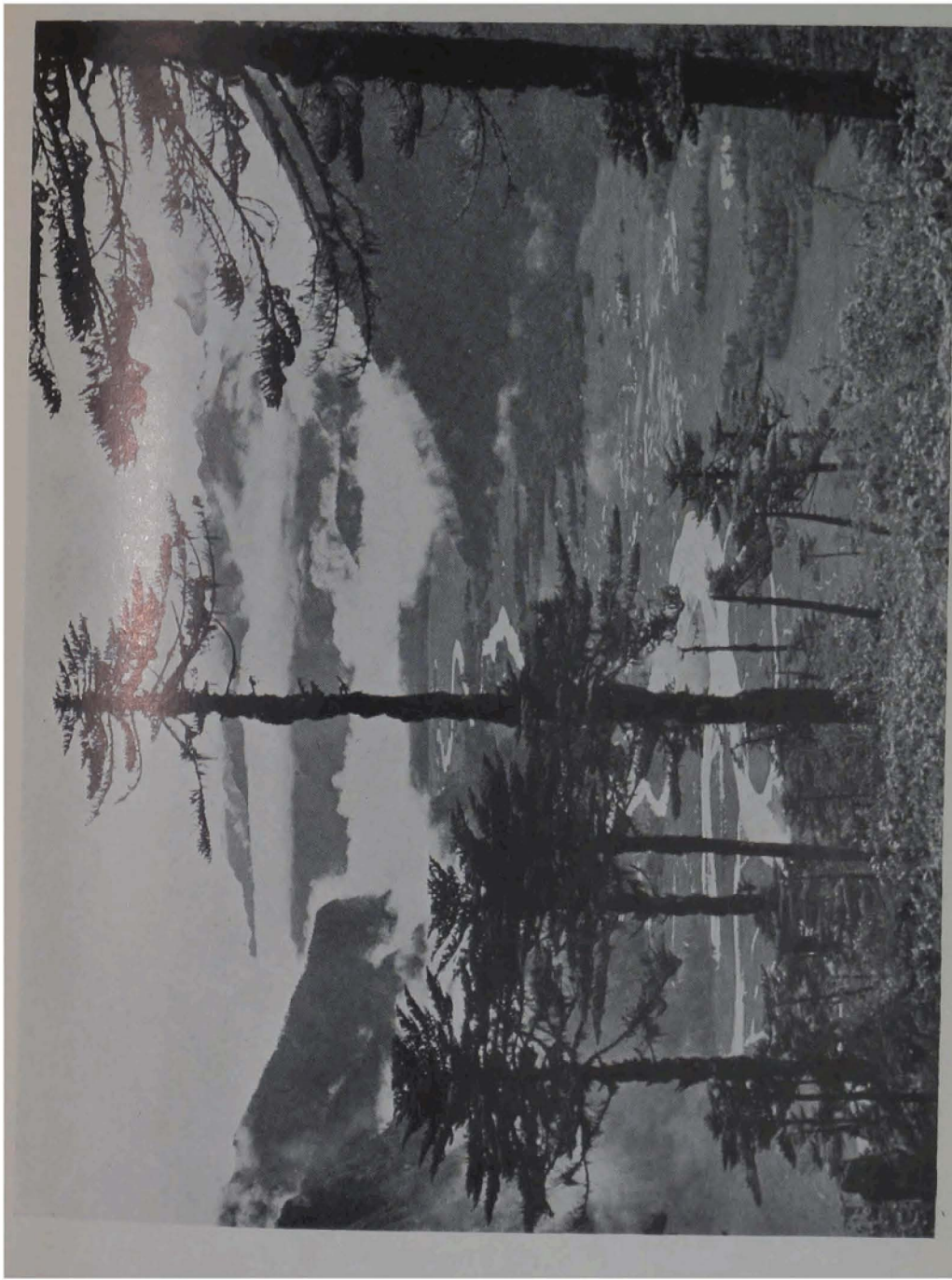
There were two new sub-species of birds and several other rarities between Molo and Lilung. The new varieties were a Nuthatch (*Sitta europea kongboensis*) and a Greenfinch (*Hypocanthus s. taylori*), both closely allied to forms from Yunnan and Szechuan. The rarities were the Chinese Paroquet (*Psittacula derbyana*), the Himalayan Crossbill (*Loxia c. himalayana*), Siskin (*Spinus tibetanus*), and Rubythroat (*Calliope davidi*).

It is five easy marches down the wide Tsangpo valley from Lilung to Tsela Dzong. The Tsangpo and main range have by now converged to such an extent that it is barely more than a day's march from the river to the summit of the various passes. In the bed of the valley there are still vast accumulations of sand, but the forest has crept so low that we actually saw pine-trees growing out of the sand-dunes.

We crossed, sometimes with great difficulty, many swollen torrents which came down from the main range. One of these, the Nayü Chu, was in high flood, and the bridge, which had collapsed, was being reconstructed by a party of workmen, amongst whom were a number of Lobas. These Lobas were said to be slaves, and the price of a slave was reported to be a dagger for each limb, a sword for the head, and a sack of flour for the body! But as all the so-called 'slaves' enjoyed complete freedom, and could have returned to their own country if they had so wished, the term 'slave' seems hardly merited. The Loba women were very diminutive and not above 4½ feet in height. They were resplendent in blue bead necklaces, and were all giggles and smiles.

Later on in the year Sherriff explored the Nayü valley and discovered at its head a pass over the main range called the Tum La.¹ The Tum La is only 12,000 feet in height and, except for the Zoji

¹ The Nayü La of map 82k. But the name Nayü is only used for the village at the mouth of the Nayü Chu, never for the pass. Just east of the Tum La, at the head of a large tributary of the Nayü Chu, is another pass, the Tunga La. The Tunga La, on map 82k leading into the Pachakshiri country, does not exist. Another pass, east of the Tunga La, called the Shoka La, is reported to be even lower than the Tum La.



3. View north from below the Tum La, showing the typical slow-flowing river and swampy river-bed, 8th July 1938

Photograph, G. S.



Photograph, G. S.

4. *Lilium giganteum* Wall, in the Nayii Phu Chu, north of the Great Himalaya, 9th July 1938

La in Kashmir, is the lowest pass across the main Himalayan axis. Conifers grow on its summit, and it is reported to be open from April to December.

We reached the little village of Tse opposite Tsela Dzong on the 30th May, and the following day were ferried across the Tsangpo to call on the *dzongpön*. The Tsangpo is here a mile wide and the crossing took 35 minutes.

At Tsela Dzong the huge Gyamda Chu comes in on the left bank from the north-west and joins the Tsangpo in several large branches. The Gyamda valley is at least 2 miles wide at the junction.

Tsela Dzong is the most important *dzong* in Kongbo and we were rather surprised that the *dzongpön* was a comparatively young man of 27. We had expected somebody older and more experienced. The young *dzongpön* was very pleasant and gave us every assistance during the long time we spent in his province, but when we broached the question of Pemakö he particularly asked us not to go there as there was an epidemic of smallpox in the district. This we discovered was perfectly true, but the real reason which prompted him to withhold permission was that the administration in Pemakö was having rather a difficult time, and our advent might complicate matters.

The *dzongpön's* wife was a gay young lady whose only worry in life appeared to be freckles. Despite our protestations to the contrary she insisted that the freckles on her face were a great disfigurement. In vain we emphasized the fact that only the fair were freckled, that Sherriff himself had a pair of magnificent freckled arms. Nothing would satisfy her but a little beauty treatment. So we prescribed lime-water and milk as a face-wash, and presented her with a packet of scented soap, a tube of glycerine jelly, and a tin of boric talcum powder.

We made Tse rather than Tsela Dzong our base as it was more conveniently situated than the latter for our work on the main range.

Leaving Tse on the 5th June we marched down the right bank of the Tsangpo to the village of Lusha, lying at the mouth of a large valley coming in from the south. Our march up this valley was typical, as we found later, of that up almost every other valley in this area leading to the main range. What struck us most about these valleys was the very gradual ascent (during which we barely rose a thousand feet) for three-quarters of the distance, followed by an abrupt ascent during the remaining quarter.

For the first mile or two the track would lead through the holly-oak zone of the dry Tsangpo valley into a belt of pine forest, and then, as the rainfall increased, through spruce, larch, poplar, and birch forest, with here and there extensive meadow-flats and bogland.

As soon as the track began to rise steeply the *Abies* zone was entered, which in its turn gave way to a dwarf-shrub moorland, and the alpine region of rock and snow.

On the 8th June we pitched camp amidst a cirque of rocky crags just below the timber line at 12,000 feet, and here we remained a week working all accessible ground on both sides of the pass.

The Lusha La (14,600 feet) held an extremely rich flora, but space only permits a reference to its most striking plant. This was a lovely grape-purple Nivalid *Primula* with a yellow eye, growing in masses on the mossy boulders in the alpine zone. So certain was I that it was new that I had even decided its name, and it was rather a shock when I was politely informed that it was *Primula calliantha* from far-away Yunnan.

It rained on this pass throughout the entire week we were there. There was no respite; night and day it just rained, and rained, and rained. Nor was the Lusha La peculiar in this respect; all the other passes we explored on the main range—the Tamnyen La, Doshong La, Pero La—were equally wet.

An amazing variety of plants grew in this atmosphere of perpetual drizzle, but birds shunned the area, and only a few species lived in the dripping woods and sodden moorland. Amongst those on the moorland was the Wood Snipe (*Capella nemoricola*). From its trivial name one would never expect such a habitat, yet it was not uncommon, and we often flushed it by day and heard it drumming by night. Never before has the Wood Snipe been recorded from anything like the altitudes at which we procured it on this and previous expeditions.

On our return from the pass we found the Lusha Chu coming down in spate, and the ford near the village difficult and dangerous. There was no bridge, and no alternative but to wade. A woman carrying a flower-box was swept off her feet, but both she and her load were rescued, and no harm was done.

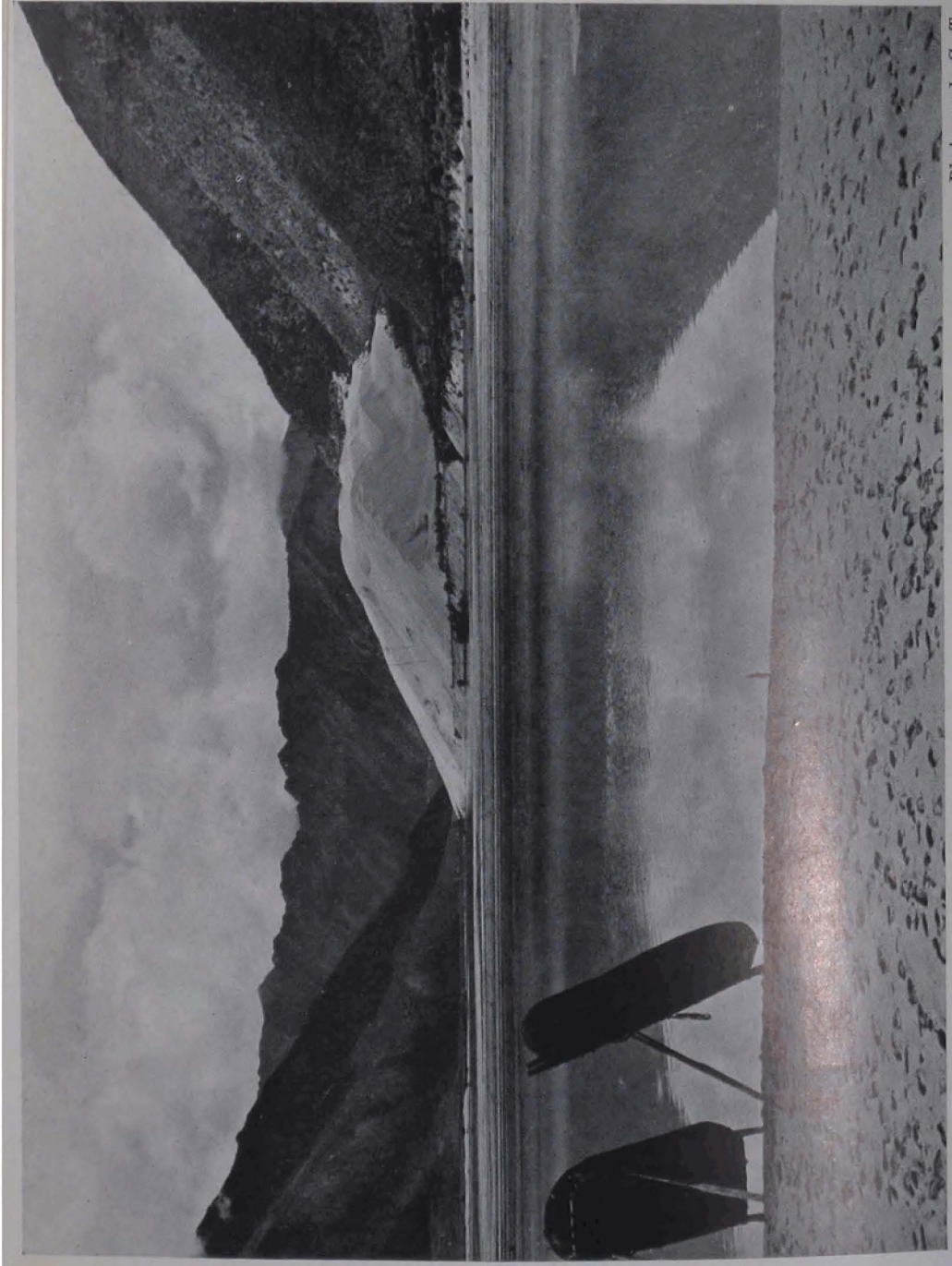
Sherriff and I have always had the best of good fortune with our collections and have never lost anything of real value. Perhaps the most amazing example of good luck happened later in the year at Lilung, when we were homeward bound. A mule with a load of pressed plants, representing months of toil and labour, stumbled and fell whilst crossing the bridge over this large river. The girth rope snapped, and the two yakdans fell one on each side of the mule. The mule rose and, without touching either box, walked quietly on, leaving the two boxes balanced precariously on the extreme edges of the bridge, and actually overhanging the rushing waters.

From Lusha we continued down the right bank to Tamnyen and marched up the valley to the Tamnyen La, where we remained for



Photograph, G. Taylor

5. About to cross the Tsangpo in a 'tru' at Tamnyen, 25th June 1938



6. The sand dune above Sang with two Kowas in the foreground, 25th June 1938

Photograph, G. T.

several days, and then beat a hasty retreat to the sandy Tsangpo to dry our specimens.

We now decided to leave the main range for a space and collect on the passes on the left bank of the river. Hitherto we had always crossed the Tsangpo in a yak-skin coracle called a *kowa*. We were now introduced to a wierd-looking craft called a *tru* which consisted of two conifer dug-outs, each about 40 feet long, lashed together. It was a most unwieldy craft, but carried a big cargo. Having embarked (with a certain amount of trepidation) we were swept a long way down-stream by the powerful current and finally landed near Sang village, where an enormous sandhill over 300 feet high is popularly supposed to cover a large *dzong* and much hidden treasure.

From Sang we ascended to the Sang La, where Taylor saw a sight he will long remember.

Perhaps I ought to have explained before this that my travelling companion, in addition to being a botanist of repute, is an—the perhaps would be more correct—authority on the genus *Meconopsis*, and that one of his greatest ambitions on our 1938 expedition was to see, growing in their natural surroundings, plants with which he was so familiar in gardens and herbaria.

Of the 42 species of alpine poppies known to science Taylor saw 17 on this expedition, and of these 5 grew on the Sang La.

The first and most striking of these plants was *Meconopsis integrifolia*, which grew amongst dwarf rhododendrons and *Potentilla* scrub on the open moorland. With stems 3 feet high bearing half a dozen flowers 6 inches in diameter in the axils of its cauline leaves, it was easily the most conspicuous plant on the pass. Associated with it was *M. simplicifolia*, with sky-blue flowers borne singly on basal scapes 2 feet high; and the so-called Ivory Poppy, the latter being a natural hybrid between the two. *M. speciosa*, one of the loveliest members of this lovely genus, with from 20 to 30 liquid blue flowers springing from a stem 18 inches high; a robust form of *M. horridula* formerly known as *M. Prainiana*; and *M. impedita*, the smallest of the five, with a dozen or more purplish-red flowers borne singly on basal scapes 12 inches high, were the three other poppies which flourished on the misty uplands of the Sang La.

From the Sang La we descended into the Rong Chu valley by an overgrown, unused track, and pitched camp at Tumbatse, which Kingdon Ward and Cawdor made their home in 1924, and which the former has described with such charm in his *Riddle of the Tsangpo Gorges*.

From Tumbatse we ascended to the Nyima La, where we were drenched to the skin in a cloud-burst, and dropped down to the

Tsangpo valley again at Timba. The next day, the 6th July, we crossed the Tsangpo in a dug-out and camped at Pe at the mouth of the valley leading to the Doshong La.

We knew from Kingdon Ward's writings of the richness of the flora on the Doshong La, so in order to break new ground we decided to explore a neighbouring pass called the Pero La. We were grievously disappointed. Although the two passes practically adjoin, none of the wonderful plants Ward writes of was to be found on the Pero La, and we returned to Pe with nearly empty presses.

The Doshong La is all that Ward describes it to be. It is an alpine garden of wondrous beauty. But day and night we were assailed by the wind and the rain, and it was only the lovely flowers which grew there that saved us from acute depression. On the 20th July we left Pe for Gyala in the gorge.

It had rained hard in the night; it was raining hard when we breakfasted, and there was no apparent reason why it should not continue to rain hard for days, even weeks.

We set out, dejected. But when we reached Tripe at noon the clouds lifted, the sun shone, and there at the head of the valley, almost vertically above us, stood Namcha Barwa in all her snowy splendour. We congratulated ourselves on our good fortune; little did we guess its magnitude. Not for a day, but for a whole week the skies were clear. We had struck a break in the monsoon at the very time we ourselves would have chosen had Providence vouchsafed us the choice.

At Pe the Tsangpo is still a placid river half a mile wide. There is, as yet, no hint of the astounding change that is to follow. But 3 miles below Pe the path leaves the river and rises to a terrace some 800 feet above it. Immediately there comes a muffled sound of rushing waters, and in the distance the Tsangpo is seen to enter a rapidly contracting valley, where its waters first become ruffled and finally break into rapids.

This is the entrance to the gorge.

A few more miles and the path leaves the terrace and descends to the level of the river at the village of Kyekar, where two glacial torrents come hurtling down from Namcha Barwa. The scene here held us spellbound. The mile-wide Tsangpo we had seen at Tsela Dzong was here confined to a narrow gorge, 100 yards in width, down which it leapt in one appalling cataract. Where giant boulders choked the bed, great waves were flung high into the air, to fall hissing and seething into the cauldron below, and over the river hung a permanent cloud of spray in which rainbows danced in the sunshine.

We camped that day at Tripe on a pleasant meadow far removed



Photograph, G. S.

7. *Meconopsis simplicifolia* (D. Don)
Walf., near the Chiniung La, Langong,
28th May 1938



Photograph, G. T.

8. *Meconopsis integrifolia* (Maxim) Franch., Sang La, 15,000 feet,
28th June 1938



9. *The northern spur of Namcha Barwa running down to the Tsangpo Gorge, seen from Gyala, 21st July*
Photograph, G. T.

from the turmoil of the river, and immediately underneath Namcha Barwa and her satellite, Atsam Ne.¹

The next day's march to Gyala was a fatiguing one of 15 miles, but intensely interesting. Beyond the village of Langpe we climbed to a river terrace and suddenly saw before us the other mighty sentinel that guards the gorge—Gyala Peri.

On we went, threading our way through the dense riverain forest, with the Tsangpo almost doubling on its tracks and flowing now westwards, and now north-eastwards. Twice we were forced to climb cliff faces to avoid projecting spurs and inundations of the river. And always there was the roar of the waters in our ears, until at last we reached the flat on which Gyala stands, where the Tsangpo flowed in gurgling whirlpools in a narrow chasm of unplumbed depth. Gyala is the last Tibetan village on the Tsangpo and we halted here for two bright sunny days. From a sulphur spring 3 or 4 miles below Gyala I had the most perfect view of Gyala Peri and the Sengdam peaks framed in a foreground of conifers. Unfortunately I had no camera, and when Taylor went down to the spring on the following day a cloud obscured the view.

From Gyala we hurried back to Tsela Dzong to keep our appointment with Sherriff and were all reunited again on the 31st July.

We found another mail awaiting us at Tse, and, after this had been read and disposed of, the two botanists opened up their collections and compared notes.

Sherriff was rather pessimistic because the Singo Samba bridge had been wilfully destroyed to prevent him reaching the Lo La. But it was soon evident that he had worked the areas to the west and east of the Lo La so thoroughly that it is doubtful if he missed much by not being able to visit the pass.

Personally, I was amazed at the vast amount of pressed material that had been collected. Already there were over 3,000 numbers collected in triplicate, representing 15 coolie-loads. All available boxes and packing-cases had been filled, and others had to be ordered from Tsela Dzong.

As Sherriff and Taylor had both had spells of solitude it was now my turn to be on my own. I had by now a fairly accurate conception of the avifauna of the Tsangpo valley and was anxious to explore other areas. There were two particular biotopes I wished to work, the high plateau region on the Kham border and the low semi-tropical region in the gorges. I therefore decided to go to the Pasum Kye La at the head of the Shoga Chu, the largest tributary of the Gyamda river, and from thence turn east into Pome and work the humid forests at Trulung, at the junction of the Tongkyuk and Po

¹ See Frontispiece.

Tsangpo rivers. Taylor and Sherriff meanwhile would work the lower side valleys on both banks of the Gyamda Chu, and meet me at Tongkyuk in early September.

I left Tsela Dzong on the 10th August and marched up the Gyamda Chu for a week along a most excellent path. Alluring side valleys came in at frequent intervals inviting exploration; and I could not help wondering how long it would take to exhaust the botanical possibilities of this huge valley. A decade probably! So the young botanist can take heart, for if it is going to take a decade to explore the Gyamda Chu properly, a generation at least must elapse before we know all there is to be known about the flora of S.E. Tibet.

A few miles above the Shoga Chu confluence I crossed to the left bank by a magnificent cantilever bridge, and ascended the Shoga Chu to Drukla Gompa.

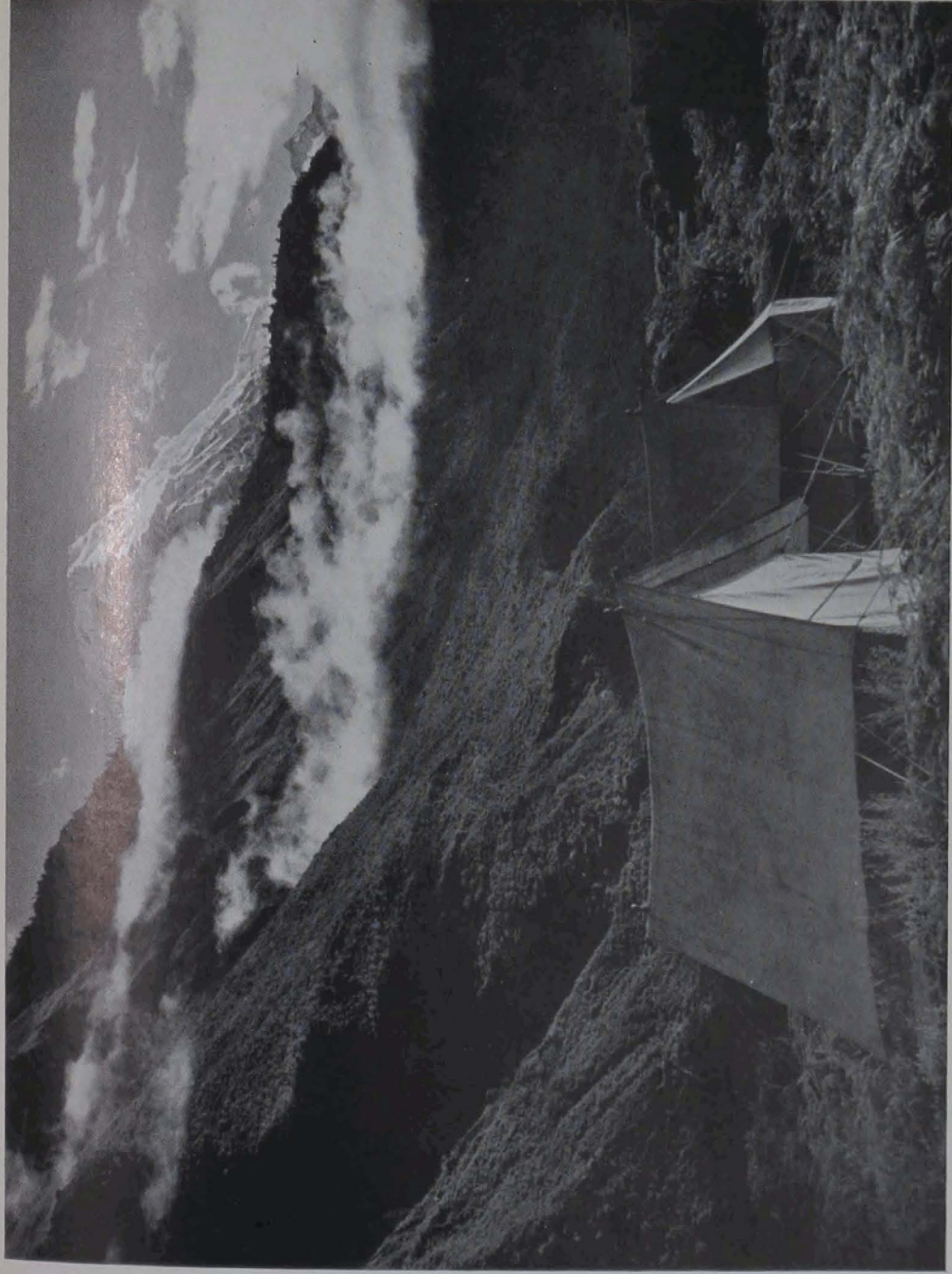
The Drukla monastery is a large one and is situated at the mouth of a wide valley coming in from the Yigrong range. Above Drukla perpendicular granite cliffs drop sheer into the valley, their summits jagged like a fever chart.

Beyond the cliffs we entered a long marshy valley full of migrating snipe and teal and reached Pangkar, the last village in the valley, on the 20th August. From Pangkar it was two marches to the Pasum Kye La, and here a bitter disappointment awaited me, for there were none of the birds I had hoped for on the pass. From its summit (17,230 feet) I could see the dry plateau stretching away northwards and another two marches would probably have brought me in contact with the birds I sought. But I had not the time to spare and if I was to keep my appointment at Tongkyuk not a day was to be lost.

However, if the birds on the pass were a disappointment the flowers were a joy, and I added 30 species new to my collection in a single day.

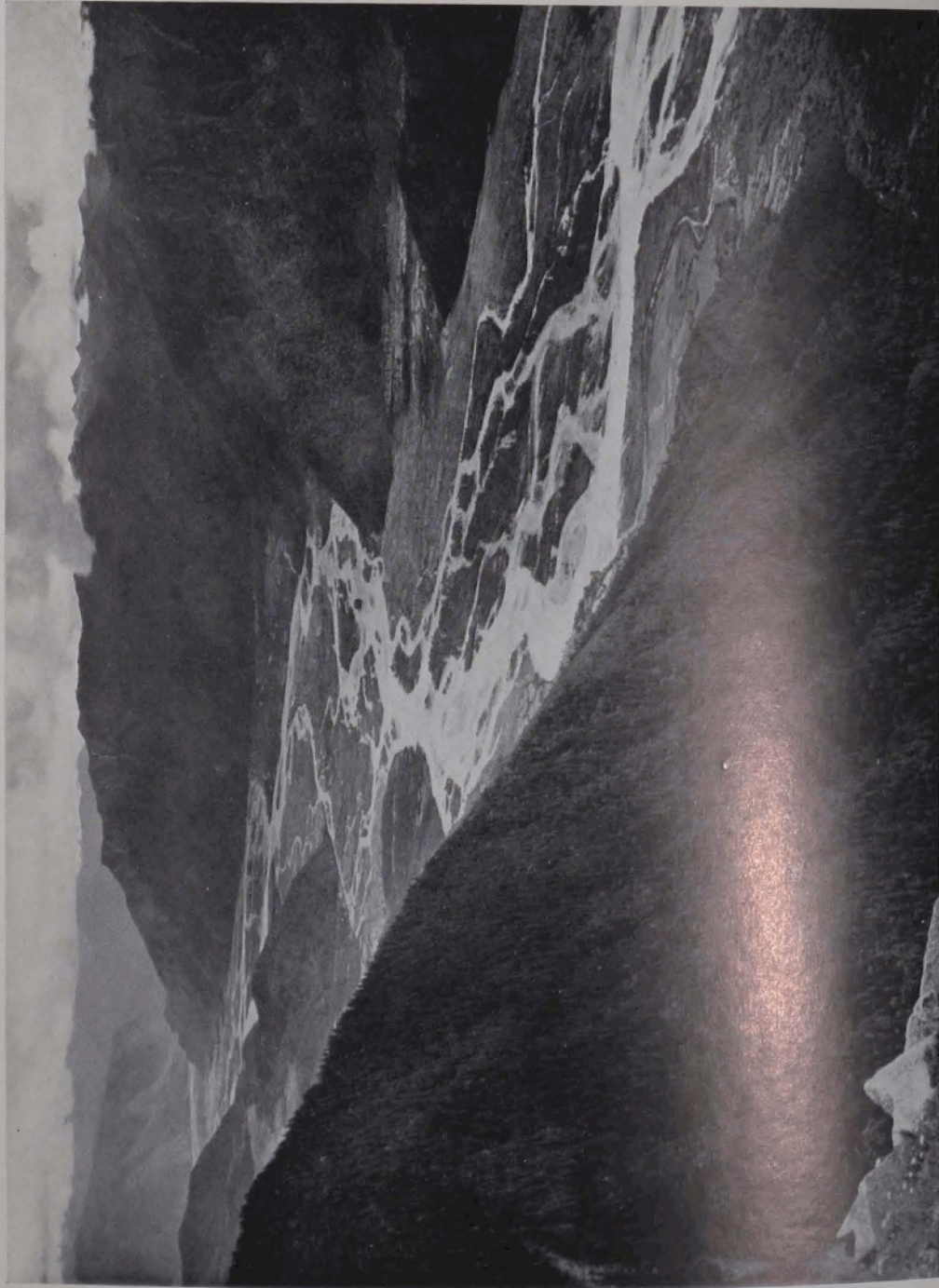
I returned to Pangkar on the 24th. It was a long and tiring march, rendered more difficult by the roughness of the road and the perversity of my yaks. Yaks are hopeless creatures in wooded areas, as they will never march in file, but burst through the undergrowth wrenching off their loads. On this particular day one brute suddenly dashed away and swam the river. It carried my bedding and I was furious. I am afraid I cannot view a sodden bedding roll with that philosophic calm which all good travellers should possess.

Next morning we were loading up when there was a jangle of bells and one of our Tibetan servants arrived at a fast amble. He bore a most disquieting letter from Sherriff to say that Taylor was seriously ill with something which looked very much like appendicitis.



Photograph, G. T.

10. Gyala Peri, 23,460 feet, from camp at Gyala, 21st July 1938



11. The Gyamda Chu, with Chomo Dzong in the upper middle of the illustration,
26th August 1938
Photograph, G. S.

This was indeed alarming, and I decided to do double marches to Kyabden, in the Gyamda Chu, where Sherriff and Taylor were halted. But at Shoga Dzong the following day I was relieved to get a further note from Sherriff to say that Taylor was much improved and that he would meet me at Tongkyuk as arranged. I therefore adhered to my original plan and marched eastwards into Pome via the Pasum Tso and Nambu La.

The Pasum Tso is a fine sheet of water 12 miles long and 2 miles broad, densely wooded on its southern shore. Here *Primula latisecta* grew in great abundance, also a lovely *Cyananthus*, and a Gentian that was probably *G. Veitchiorum*. Towards the north-east was a lofty snow-peak called Namla Karpo, from which a large glacial torrent drained into the lake. To the west of Namla Karpo were other large valleys, all well wooded, which would certainly have repaid botanical exploration. I now began to reproach myself that I had not separated from Taylor at Tumbatse in early July to work the western slopes of this wonderful Yigrong range. It would have paid us had I done so, for the flora of this area is remarkably rich. I crossed the Nambu La on the last day of August and descended a wide valley, which reminded me of Tsari, to Nambu Gompa. Opposite the little monastery, on the south side of the valley, is a pass called the Ningtsi La which leads in two easy marches to a village of that name in the Gyamda valley.

I was now in Pome. On the next day's march down the Nambu Chu the path was alternately good and atrociously bad. I got some handsome plants, including a beautiful aconite (*A. volubile*) 8 feet long, which trailed over the ground bearing numerous large purple flowers.

During the night a small mammal invaded my tent and disturbed my sleep. When I awoke in the morning I found that it had constructed a nest in one of the poacher's pockets of my coat, and deposited therein upwards of fifty fruits of the size of a walnut—a sure sign of approaching winter.

The next day we camped near the junction of the Nambu Chu and Tongkyuk Chu.

Five or six years previously a large lake which had been impounded some distance up the latter valley broke its bonds and a terrific flood ensued. Uprooted trees lay everywhere in the scoured river-bed, and the high-flood mark was clearly visible 40 feet above the normal level of the river.

I reached Tongkyuk Dzong on the 3rd September, where I received another letter from Sherriff to say that Taylor was again seriously ill. There could be no question now of descending the Tongkyuk river to Trulung, so I posted up the Rong Chu to

Tumbatse, crossed the Temo La, and rejoined Sherriff and Taylor at Dzeng, near Temo Gompa, on the 7th.

Taylor certainly looked a wreck, but neither Sherriff nor I had any idea what was wrong with him. At times we thought it was dysentery, and then at times we thought it was liver. There was one consolation—it certainly was not appendicitis. We had to try some treatment, however, and eventually we came to the conclusion that the safest thing to do was to starve Taylor. Taylor consented, and we kept him on milk and egg flips for a week, and gave him some cholera pills to keep his 'tummy' in order.

Now, whether Taylor was cured *because* of our treatment, or whether Nature effected her own cure *despite* our treatment, I really cannot say. I only know that our patient *was* cured. By the end of the first week he was a new man and clamouring for something solid, so we gave him a chicken. This did no damage, so we gave him another, and by the end of a fortnight his ration of chickens was two a day, one of which was made into soup. At the end of the third week the ration was increased to three, and it now became quite a problem, especially when we were halted, to obtain sufficient chickens to satisfy Taylor's somewhat inordinate requirements. However, at the end of the fifth week Taylor went off the chicken standard and returned to a normal diet, thus solving the problem.

By the 16th September Taylor had made such splendid progress that we were able to put into force the plans we had made for the seed harvest.

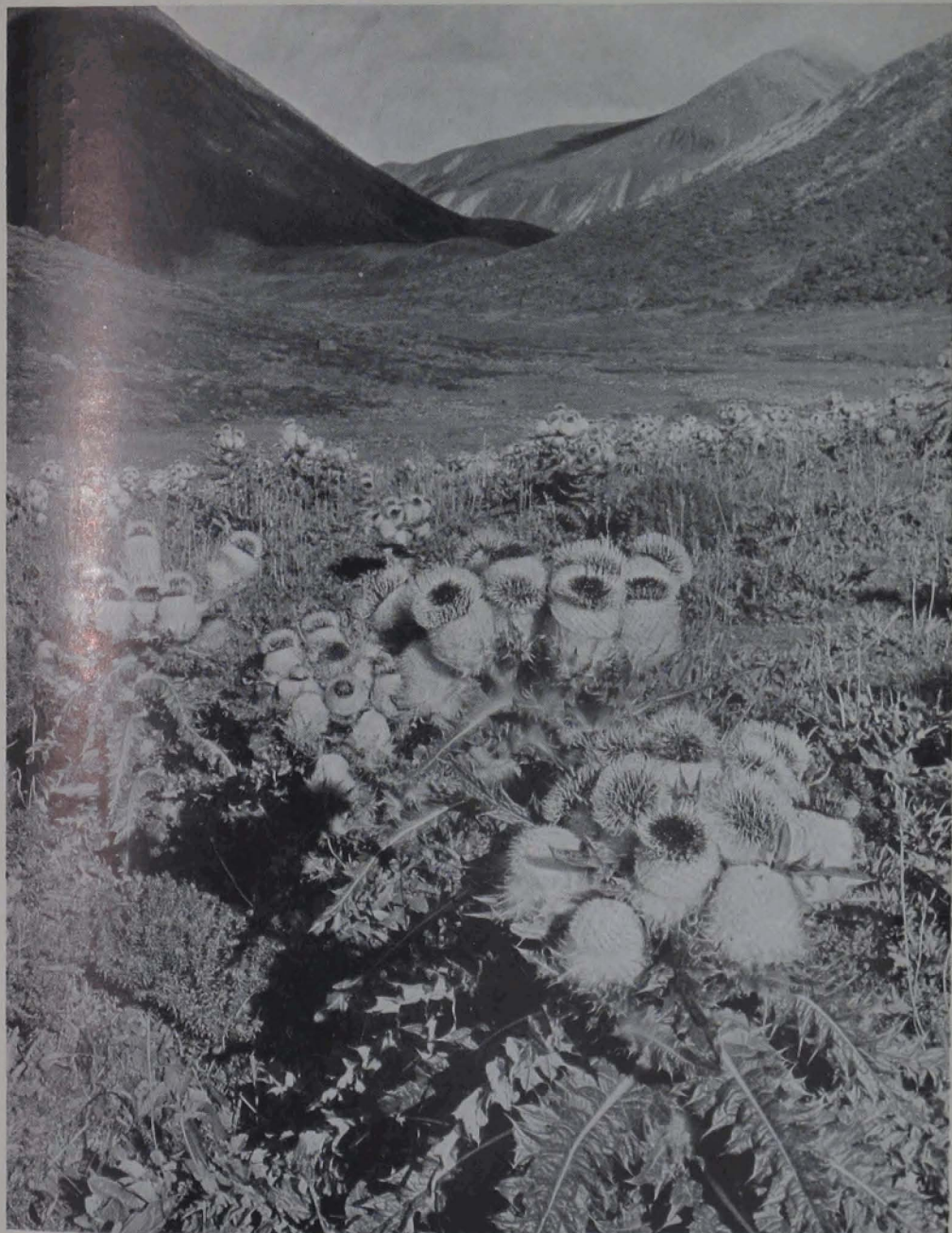
Sherriff returned to Molo via Lilung to collect on the Lo La and the passes on the main range in the Langong valley. From Langong he explored a new direct route to Migyitun via the Lingsang La, and then returned to Diwangiri by the route we traversed in 1936.

Taylor and I meanwhile floated down the Tsangpo in coracles and pitched camp at Lusha. From here we dispatched our collectors to the Tamnyen La and Doshong La, whilst I went up the Lusha La myself. Taylor convalesced at Lusha.

We had the usual foul weather on the passes, but reaped a rich harvest. In addition to seeds we also dug up living plants of many of the rarer and more difficult species, and these were sent home by air on reaching Calcutta.

On the 23rd September we left Lusha and completed the first march on our long journey back to India. Taylor, though still weak, stood the test well, and henceforward gave no further cause for anxiety.

On the 1st October we reached Lilung and were annoyed to find that the bridge over the river half-way to Molo had been cut the



Photograph, G. S.

12. *Carduus sp.*, on the Mira La, 14th August 1938



13. The source of the Lilung Chu, west of Langong, with the Lingsang La in the background,
21st October 1938

Photograph, G. S.

previous day. Much of our kit, including our warm clothing, had been dumped at Molo, and this had to be rescued somehow. We therefore sent an intelligent Bhutanese servant up the Lilung Chu by a difficult hunter's track, whilst we marched up the Tsangpo to Kyimdong Dzong, which we reached on the 8th. Four days later our loads from Molo arrived via the Lang La, and we left for Tsari the same day.

It was on the Bimbi La, the pass that leads into Tsari, that we saw the most glorious display of autumn colouring that either of us had ever seen in our lives. On the south-facing slopes above Sumbatse there grew a *Berberis*—I am proud to think it bears my name—not in hundreds or thousands, but in tens and hundreds of thousands, whose fiery red leaves glowed so vividly that the whole hill-side for mile upon mile seemed to be ablaze. Here and there in the midst of this burning fiery furnace shone the rich orange-bronze of a rose; but the dominant colour was red—the red of glowing embers seen at night. We collected the fruit of this *Berberis*, and it is to be hoped this handsome shrub will one day flourish in British gardens.

To label, press, and preserve plants for the herbarium was never the sole object of our botanical expeditions. Few, save the expert, ever spend much time in herbaria, but the living plant, that grows in our gardens and parks, is a joy to all who behold it. And so we experienced just as big a thrill when we garnered the seeds of some dry and shrivelled plant in autumn as when we plucked it in all its floral loveliness in spring—for others, perhaps, would now be able to enjoy its beauty.

The trials of a seed hunter are numerous, and we often used to wonder how many of the people who received our seeds ever paused to think of the labour entailed in their collection. Only a few, I fear.

Yet the labour at times was great, not a mere snatching of capsules and berries by the roadside as we passed by. To climb 3,000 or 4,000 feet and find the seeds all shed, or green and unripe, eaten by grubs or birds or cattle, or buried 'neath a blanket of snow, were some of the difficulties with which we had to contend.

And even when we *had* collected good and ripe seed we could never be quite certain that it would germinate.

Perhaps the three loveliest primulas we obtained on this journey were Kingdon Ward's *Primula falcifolia*, the Abbé Delavay's *P. calliantha*, and our own beautiful *P. Elizabethae*. We collected ripe and abundant seed of each, and we sent these seeds to at least fifty expert gardeners in Great Britain. All failed; not a seed germinated.¹

In addition to seed, we sent home living seedlings of these three

¹ Since the above was written, one report has reached me that seed of *Primula calliantha* has germinated.—G. Sherriff.

primulas by air, and when I was home in the summer I went to see them in their new abode. Some were alive, a few had even flowered, but all looked unhappy, and none, I fear, will survive. Compare these results with *Primula Jaffreyana*, which we dug up in a desiccated state on the Bimbi La and used as packing material in the plant crates we sent home by air. On its arrival in Scotland *P. Jaffreyana* was reported dead beyond all hope of recovery. Knowing how brittle and seemingly dead it was in its natural habitat in winter, we wired imploring experiment and trial. The dried-up remains were planted, and *P. Jaffreyana* flowered to perfection a few months later.

We did well with seeds on the Bimbi La, and Taylor was particularly pleased to obtain fruiting specimens of *Meconopsis argemonantha* and *M. bella*, which we had not seen farther east.

When we reached Tsari we found most of the inhabitants had already departed on their annual begging pilgrimage, but transport was forthcoming and we reached Sanga Chöling on the 18th October.

It was nice to see our good friends of Sanga Chöling once again, but 'Rosy Cheeks' was disappointing. The charming complexion of 1936 was hidden 'neath a horrible smear of caoutchouc which had been applied to ward off an attack of neuralgia.

We left Sanga Chöling on the 21st, resolved to travel quickly as Taylor had a boat to catch, and railhead was still nearly a month's journey distant.

We reached Chayul Dzong on the 24th and Tsona five days later by the route we had followed in 1936.

This was perhaps the most trying and uncomfortable part of the whole journey. Every day we rode in the teeth of a violent wind, which raised clouds of grit that seared our faces like sandpaper. Our lips cracked and bled, the skin peeled from our faces, and day after day we rode with heads bowed on our breasts in stony silence. The climax came on the summit of the Nyala La, where we met an icy wind of such tempestuous violence that we had to lean forward at an angle during the descent and had the greatest difficulty in breathing. That evening I was afflicted with a sneezing fit which lasted more than an hour and left me quite exhausted.

On the 30th October we left Tsona soon after sunrise and reached the summit of the Pö La well before noon.

Down we dived into the fir and rhododendron forests above Trimo, happy in the knowledge that the Plateau lay behind us, and the last pass on our long journey had been crossed. A fortnight later we reached Diwangiri and looked down on the plains of Assam half-hidden in a smoke haze. And so back to a life which—let it be whispered—seemed rather flat and tame after the one we had just been living.