José Luis Bermúdez

CRAB CRAWL ON THE BEZINGI WALL

"You may bivouac here", said the saturnine Yuri Saratov, pointing his finger somewhere to the leftmost end of the long panoramic photo of the Bezingi wall. He looked hard at us and walked about four paces to his right: "Next bivouac" he commented, pointing straight in front of him. Then, in case we hadn't got the message, he swung his arm back to the left and intoned: "No bivouacs from Shkhara Main to Shkhara West". By his standards he was being rather chirpy. Saratov's usual reaction to a proposed route was to pore over his prized collection of photos and point out the noted accident blackspots of the last thirty years. "Any questions?" he asked, after informing us that the control time was eight days. We had none. "You will take radio" he commanded. We didn't have the heart to argue. It was, after all, the Russian way. Our call sign was Saturn 28.

We were there because I had found myself in the peculiar position of being a modest, although published, authority on an area I had never visited, or even gone near – the Central Caucasus. When the peer pressure became intolerable I finally decided to investigate my own description of the Caucasus as a natural playground for the adventurous climber, combining the grandeur of the Himalaya with the accessibility and technical challenge of the Alps, etc., etc. One of my worries was how awful it would be to flog all the way there only to discover 600 miles of snow-covered slag heaps crawling with trigger-happy Chechens. But the main worry was that the routes I was thinking of doing there looked dangerous. Particularly the grand traverse of the Bezingi Wall.

The Bezingi Wall is the show-piece of the Central Caucasus. It is an enormous north-facing wall, 15 or so kilometres long with 7 peaks and 11 summits, the highest of them over 5000m and rising 2000m above the glacier. Looking at it from the valley the eye is met with a vast swathe of improbably balanced seracs and the odd few islands of rotting rock. The good thing about the traverse is that it goes right over the top, neatly avoiding the conspicuous objective danger. The bad thing about it is that once on it there's only one place to get off, and even from 2000m below it

was clear that there was mile after mile of gently overhanging cornice. The Bezingi Wall is the first thing the weather hits after roaring across the plains of Georgia, and the ridge has weird and wonderful features to prove it.

The traverse of the Bezingi Wall was the route to do, as I had written in several places. I was particularly keen on it because I've always preferred climbing sideways to climbing upwards, despite the common prejudice to the contrary. Eventually I managed to persuade Neil Wilson, of Scullomie, near Tongue, to break the honourable SMC tradition of never climbing outside Scotland. The Central Caucasus was just the thing for Neil, who was looking for new challenges now that he was running out of Munroes.

Our first attempt was short and sweet. Leaving the delightful Austrian bivouac in a Caucasian drizzle reminiscent of Scotland we found ourselves some hours later in a storm battling up the unpleasant ice of the Cockin couloir to meet the North-East ridge of Shkhara. The ice was hard and progress slow. We were both reminded how much we hated 50-degree ice. A pitch below the bivvy site one of the bolts on my ice axe head fell out, creating the droopy pick familiar to owners of Mountain Technology Vertiges. The storm was still raging as we pitched the tent. We decided that we hated the Cockin couloir so much that we would press on anyway with three axes. The next morning we duly did, but failed to get very far. One of Neil's claims to fame is starring in a phenomenally expensive rescue on Ben Nevis when he was avalanched off the top of the Orion Face and broke a leg falling the full length of the rope. This made him rather sensitive to the presence of windslab, and when the ridge started cracking and rolling a few pitches further on the next morning he refused to continue.

The retreat took a while, with the weather gradually improving the further we got from our high point. Just as we climbed the moraine to the Austrian Bivouac the clouds parted and a rosy sunset settled over the Bezingi Wall. It was clear we would have to make another attempt. But we were running out of time and still short of an ice axe. We would only have a chance to finish the route by leaving at the latest the morning after next. The only solution was for one of us to make a desperate trip to Camp Bezingi and back the next day. I was chosen. The round trip only took 10 hours of flogging up and down the character-building Bezingi glacier. At the Camp a helpful man

welded my ice-axe back together in a brutally effective manner. I don't think I'll ever have trouble from it again. Neil spent the day watching all the windslab fall off the ridge, or so he hoped.

We set off again at one the next morning. This time the weather was fine and we made good progress, although we were both quite tired. We bivvied on the NE Ridge, a long way above our previous site. It was a perfect bivvy site, large and flat. It was a while before we saw another one of those. The next day was a short one. We pressed on up the magnificently corniced ridge to the summit (5200m), where we enjoyed the first of several extremely chilly and extremely scenic bivvies, looking out to the North across the whole of the Central Caucasus, and to the South over a remarkably lush Georgia. The contrast between the two sides of the wall was striking. Georgia has trees and fields and villages. Russia has glaciers and moraine. But the good thing about the Russian side, apart from the pork fat at Camp Bezingi, is that they don't shoot foreigners there.

A broad whaleback ridge descended westwards from the summit of Shkhara. We thought it was great. Unfortunately we could only gambol down it for 200m before the serious business of climbing sideways started. The ridge narrowed to a corniced crest, falling away steeply on both sides. We frontpointed sideways just below the crest, moving together on very insecure ice. Most of the time we stayed on the Georgian side, but occasionally we crossed the cornice and shifted operations into Russia to avoid some particularly foul stretches of ice. It was a rather peculiar feeling, teetering sideways like a crab for hour after hour above a 2000m drop. But we were making good time and just managed to beat the evening storm to a plateau where we bivvied, somewhere near the West Peak of Shkhara.

But the good times couldn't last for ever. On day 4 we set out just after dawn. The cloud had come down, as it often did, but we followed the crest of the ridge in a generally westwards direction. The ice was awful but we had got used to it by now, and breezed along. But after 30 minutes or so the topography of the ridge started to get more complicated, with ridges appearing off to the side. We hadn't bargained for this, and the last thing we wanted to do was charge off down the wrong ridge into Georgia. All we could do was take regular compass bearings, head westward and hope for the best. We were using Neil's compass, since I've never been very sure which bit points where, until it occurred to us that it might not be working. The obvious answer

was to get mine out and double check, and so we did. Unfortunately, as it was being extracted from the top of my pack, the case with sun glasses also emerged and bounced off down the face into Georgia. I was extremely annoyed, since they were prescription Raybans that had cost a fair whack. And then it hit me that neither of us had brought spares, in a stupid attempt to keep the rucksacks manageable. We were in a serious mess, with guaranteed snowblindness in the middle of a long traverse. This was incompetence of the highest order.

Things got worse. Even with two compasses to point us in the right direction we still got lost and headed off down the wrong ridge in the mist. Realising our mistake we retraced our steps back up to the ridge. The cloud refused to lift. Every time it looked as if a gap was opening up one of us would belt up to the top of the ridge, taking a gamble on falling through the cornice, and hoping that we would see some familiar landmark on the Russian side. Inevitably the gap closed before we had a chance to look through it. So we sidepointed sideways hoping that we would at least find somewhere flat enough to bivvy. Nowhere appeared. Eventually we came to what we later worked out was the first of the seven gendarmes that are the technical crux of the route. The clean crest of the ridge turned into a series of pinnacles of shattered rock. We didn't immediately work out that this was the seventh gendarme (they are confusingly numbered in reverse). It looked too big and complicated to be described as a gendarme. We still thought it a real possibility that we were on completely the wrong ridge. For some bizarre reason we decided to abseil into a couloir between two of the pinnacles to see if we could work round at a lower level. This was a mistake. Just as the second man was down the wind got up and it started hailing. Stones came flying down from the pinnacles above, and little avalanches started running down. Neil's Scottish training came in handy here, as he teetered back up the snow-covered slabs we had just foolishly abseiled down.

The weather was getting even worse. There wasn't much daylight left, and we clearly needed to bivvy. We poked hopefully at a few heaps of snow on the pinnacles that looked as if they might become snow holes, but they all fell apart to reveal huge drops down to the Bezingi glacier. Then I suddenly remembered falling into a crevasse not long before the pinnacles. Perhaps it could be expanded into a snow hole. The hole I'd left was still there and Neil disappeared into it to start excavating. I waited outside, listening to him getting down to work. The crevasse was about 15

feet below the crest of the ridge. After a few minutes he popped his head out to announce that we had a home for the night. It appeared to be an intercontinental crevasse stretching from Asian Georgia to European Russia. We didn't investigate too far, but it did look as if that part of the Bezingi wall was honeycombed with interconnecting layers of air. It was certainly very draughty.

Things weren't looking good. We were stranded in a storm in a crevasse half way between the summits of Shkhara and Jangi-Tau. Since Shkhara West we'd been going more or less steadily downhill, and we didn't fancy our chances of reversing the route. Ahead of us lay the seven gendarmes that were supposed to be the hardest part of the traverse. There was a storm raging outside and, to cap it all, I was swiftly going snowblind after a day without sunglasses. We settled down for an cold and miserable night beneath the drip of meltwater.

The next morning things had picked up slightly. The storm had cleared and we could see the way ahead. Or rather, Neil could. I couldn't see a thing. My glasses were covered with sticking plaster leaving just a slit in the middle in a vain attempt to recreate the Rayban effect. We set off across the gendarmes. It wasn't entirely clear where the number seven came from. It seemed to be either one very big gendarme about a kilometre and a half long, or hundreds of little ones. It would have been very good fun if I had been able to see anything, but it turned out rather awkward, not least since we had to pitch everything. Neil went in front to do the route finding and talked me past the (to him) obvious cornices and treacherous snow covered slabs. I followed instructions. This was all very well moving up the gendarmes, but rather traumatic coming down the other side when it was my turn at the sharp end of the rope, particularly since I'd had to take a triple helping of dihydrocodeine to alleviate the pain in my eyes.

Progress was excruciatingly slow on day 5. We didn't make it through the gendarmes but bivvied at the first flat place we found. I dosed my eyes that night with amethocaine and by the morning I could see again. The weather held and we were reasonably optimistic about finishing the route. After the last gendarme it was a quick plod from the Sandro Saddle up to Jangi East (5030m), across to Main and then West Jangi (5051m), over the gendarmes of the Saw of Katyn-Tau, and then Katyn-Tau itself(4970m) to the Katyn Plateau, which we'd been told was magnificently flat and wide and then over three progressively smaller summits to reach the Zanner

Pass. Three days from the Sandro Saddle, we'd been told. We'd done the hard bits. It was just a question of hanging on for the rest of the route.

But day 6 didn't go well. We were still moving at a snail's pace. Neil had given me his sun glasses and was now paying the price by slowly going snowblind himself. The previous five days had taken their toll. It took the whole day to get to the Sandro Saddle. Just before the final gendarme I slipped on a particularly brittle and horrible ice traverse. Neil's ice axe belay pulled out, but he managed to hold the fall before we both went flying into Georgia. In a moment our attitude to the climb changed completely. From having our sights fixed on the Zanner Pass we went instantly to the decision to bale out at the earliest opportunity. It was clear that the odds were on another stupid mistake from one or the other of us, and it wasn't clear that the route was worth it. Fortunately we were within striking distance of the one point on the whole ridge from which retreat is feasible - the North-East Ridge of Jangi East, which we had already ascended as a prudent training climb.

That night we bivouacked on the Sandro Saddle. There was some brief talk of going on, but it didn't last for long. The usual afternoon snowfall turned into a thunderstorm, the first we had experienced on the traverse. The Bezingi Wall is the highest and most obvious feature in the area, and the top of it was a scary place to be when there was lightning flying about all over the place. Mackerel skies suggested that the bad weather would last. The final straw came when we worked out what day it was and realised that our flight to Moscow was leaving in 3 days time. Even if we finished the route in three days we would have had to walk through the night back to Camp Bezingi to make it to Mineralnye Vodye in time. That wasn't feasible. All in all the fleshpots of Camp Bezingi were starting to look pretty tempting, and the next morning we succumbed at dawn. We arrived back at the Austrian Bivouac just after ten that evening. Anti-climactic of course, but still rather a relief. Our 'controller' and other Russian friends were pleased to see us, which was quite surprising since we both looked awful.

One can always tell how much of an epic one has had by how long the resolution never to leave the ground again lasts. This time it was nearly three days. Perhaps it wasn't so bad after all. In fact we probably quite enjoyed it. The Bezingi glacier was the best place to climb I've ever been to. But

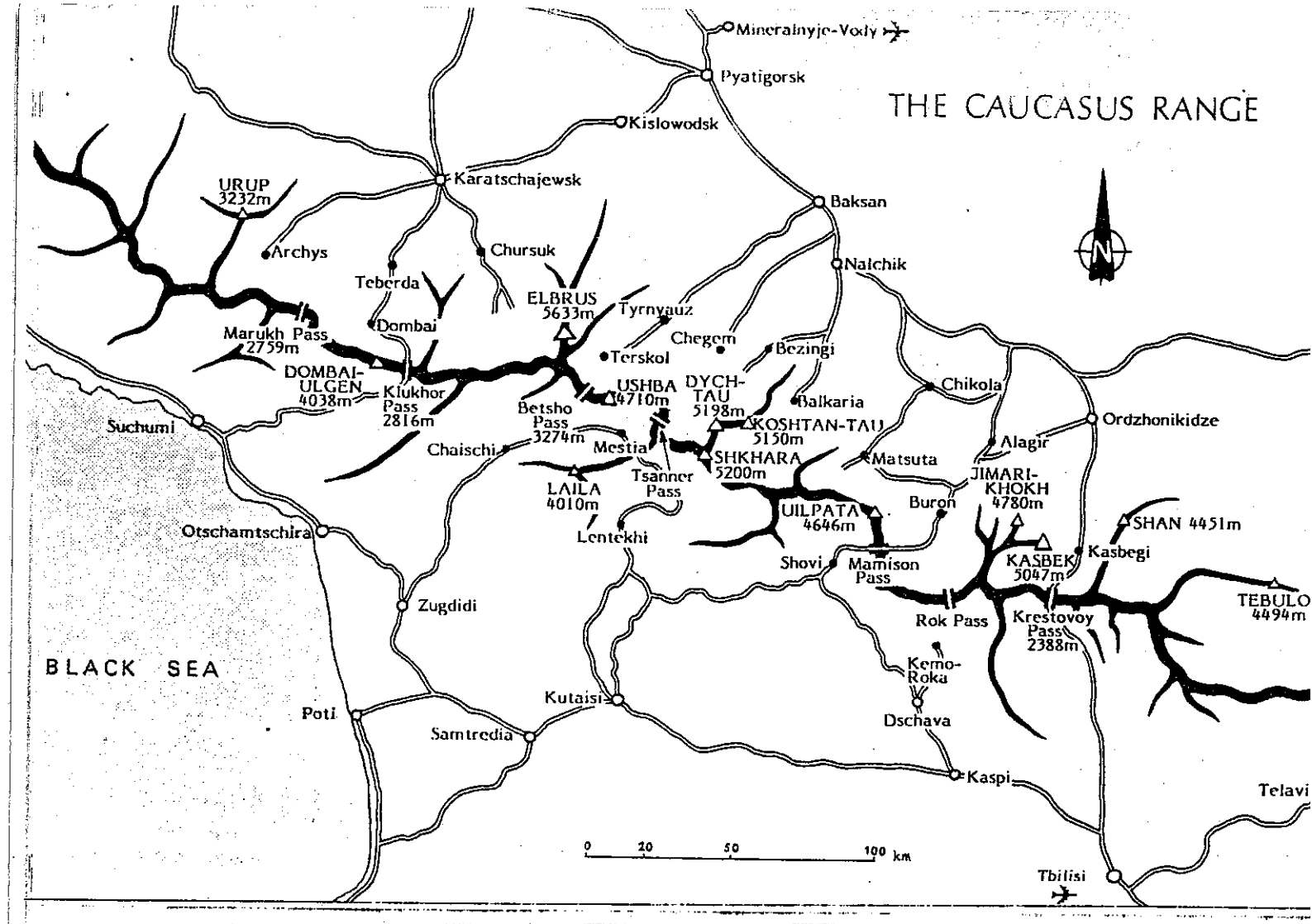
I would advise anybody planning a visit there not to underestimate the routes. It's not the Himalaya, but it's certainly not the Alps!

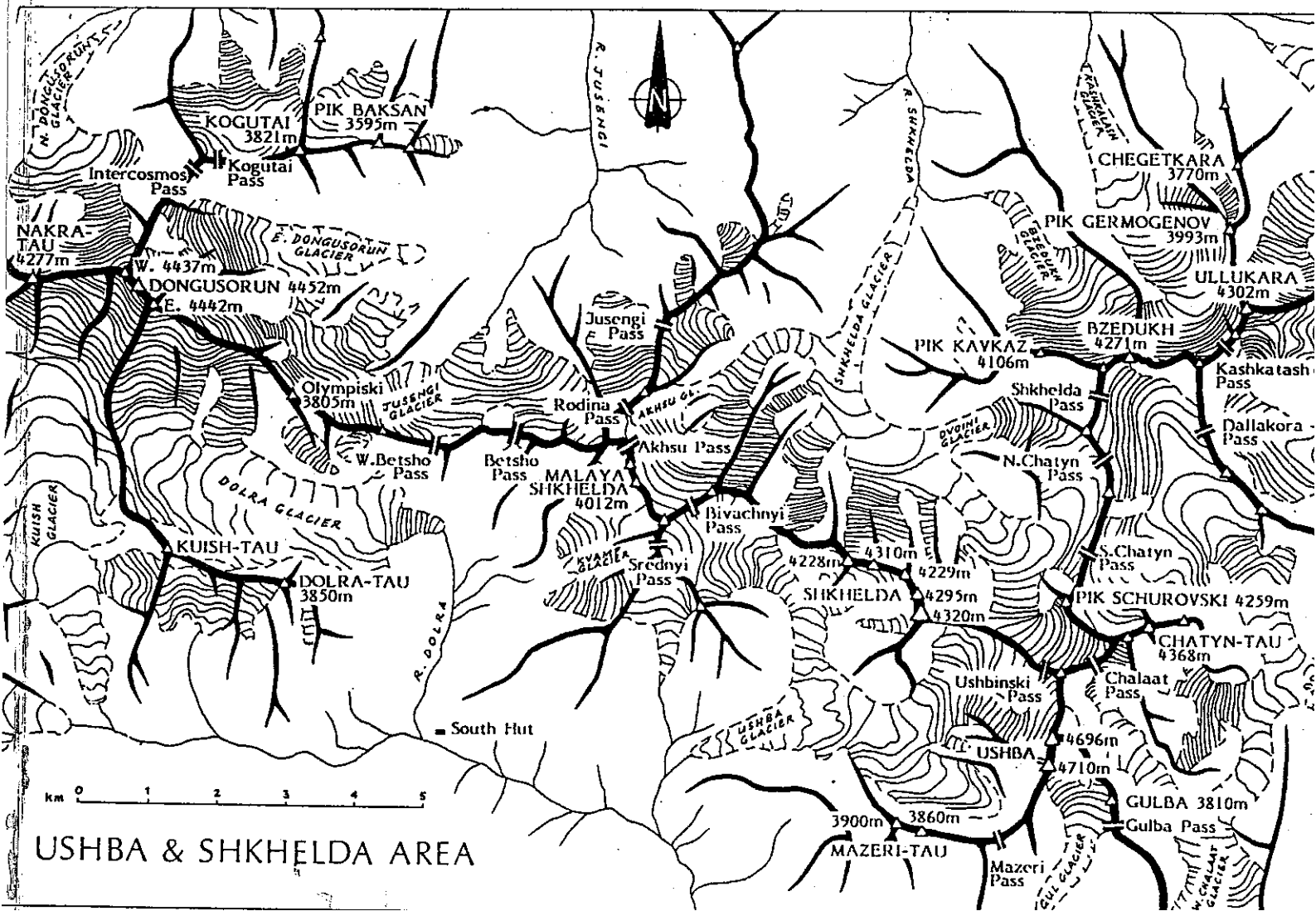
Summary The Bezingi region in the Central Caucasus was visited this summer by José Luis Bermúdez and Neil Wilson. Their principal objective was the first British traverse of the Bezingi Wall from Shkhara to Lyalver. A combination of bad weather, sickness and incompetence forced them off the route after seven days. They climbed the hardest and most serious section of the traverse from Shkhara to East Jangi Tau, which is graded at Russian 5B. They felt that this equated to ED1/2, despite being technically far easier than any equivalently graded route in the Alps.

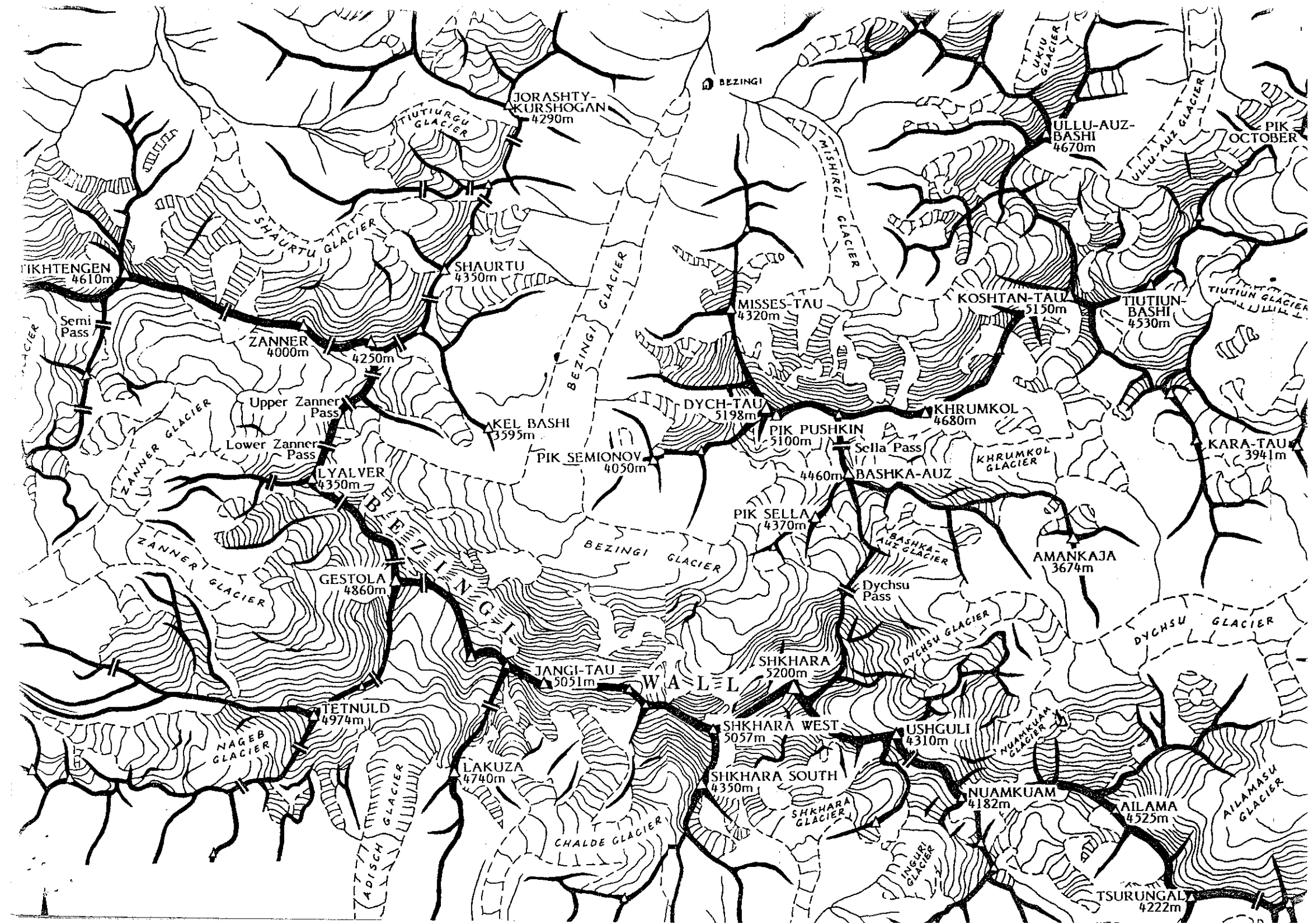
They also climbed the Cockin route on Jangi Tau, down which they later retreated (Russian 4B, Alpine D sup) and the traverse from Pik Warsaw to Pik Sella (Russian 3A, Alpine AD).

Day 3: Between Shkhara Main and Shkhara West

Day 5: Looking back to Shkhara


THE CAUCASUS RANGE
Mineralnyje-Vody
Pyatigorsk
Kislowodsk
Karatschajewsk
Baksan
Nalchik
URUP 3232m
Archys
Chursuk
Teberda
Dombai
ELBRUS 5633m
Tyrnyauz
Marukh Pass 2759m
Chegem
Terskol
Bezingi
DOMBAI-ULGEN 4038m
Klukhor Pass 2816m
USHBA 4710m
DYCH-TAU 5198m
Balkaria
Chikola
Suchumi
Betsho Pass 3274m
KOSHTAN-TAU 5150m
Ordzhonikidze
Chaischi
Mestia
SHKHARA 5200m
Matsuta
Alagir
LAILA 4010m
Tsanner Pass
JIMARI-KHOKH 4780m
UILPATA 4646m
Buron
SHAN 4451m
Otschamtschira
Lentekhi
Shovi
Mamison Pass
KASBEK 5047m
Kasbegi
Zugdidi
TEBULO 4494m
Rok Pass
Krestovoy Pass 2388m
BLACK SEA
Kemo-Roka
Kutaisi
Poti
Dschava
Samtredia
Kaspi
Telavi
0 20 50 100 km
Tbilisi


N. DONGUSORUN GLACIER
KOGUTAI 3821m
PIK BAKSAN 3595m
Intercosmos Pass
Kogutai Pass
NAKRA-TAU 4277m
E. DONGUSORUN GLACIER
W. 4437m
DONGUSORUN 4452m
E. 4442m
R. JUSENGI
Jusengi Pass
Olympiski 3805m
JUSENGI GLACIER
Rodina Pass
AKHSU GL.
W. Betsho Pass
Betsho Pass
Akhsu Pass
MALAYA SHKHELDA 4012m
DOLRA GLACIER
KUISH GLACIER
KUISH-TAU
Bivachnyi Pass
DOLRA-TAU 3850m
SVANA GLACIER
Srednyi Pass
4228m
4310m
4229m
SHKHELDA 4295m
4320m
R. DOLRA
South Hut
km 0 1 2 3 4 5
USHBA & SHKHELDA AREA
R. SHKHELDA
SHKHELDA GLACIER
K. KASHKASHLAIN GLACIER
CHEGETKARA 3770m
BZEDUKH GLACIER
PIK GERMOGENOV 3993m
ULLUKARA 4302m
BZEDUKH 4271m
PIK KAVKAZ 4106m
Kashkatash Pass
Shkhelda Pass
DVOINI GLACIER
Dallakora Pass
N. Chatyn Pass
S. Chatyn Pass
PIK SCHUROVSKI 4259m
CHATYN-TAU 4368m
Ushbinski Pass
Chalaat Pass
USHBA GLACIER
4696m
USHBA 4710m
GULBA 3810m
Gulba Pass
3900m
3860m
MAZERI-TAU
Mazeri Pass
GUL GLACIER
W. CHALAAT GLACIER


BEZINGI
JORASHTY-KURSHOGAN 4290m
TIUTIURGU GLACIER
SHAURTU GLACIER
SHAURTU 4350m
TIKHTENGEN 4610m
Semi Pass
ZANNER 4000m
4250m
Upper Zanner Pass
Lower Zanner Pass
ZANNER GLACIER
KEL BASHI 3595m
BEZINGI GLACIER
PIK SEMIONOV 4050m
LYALVER 4350m
BEZINGI
GESTOLA 4860m
JANGI-TAU 5051m
WALL
TETNULD 4974m
NAGEB GLACIER
ADISCH GLACIER
LAKUZA 4740m
CHALDE GLACIER
MISHIRGI GLACIER
MISSES-TAU 4320m
DYCH-TAU 5198m
PIK PUSHKIN 5100m
Sella Pass
4460m
BASHKA-AUZ
PIK SELLA 4370m
BASHKA-AUZ GLACIER
Dychsu Pass
DYCHSU GLACIER
SHKHARA 5200m
SHKHARA WEST 5057m
SHKHARA SOUTH 4350m
SHKHARA GLACIER
INGURI GLACIER
UKIU GLACIER
ULLU-AUZ-BASHI 4670m
ULLU-AUZ GLACIER
PIK OCTOBER
KOSHTAN-TAU 5150m
TIUTIUN-BASHI 4530m
TIUTIUN GLACIER
KHRUMKOL 4680m
KHRUMKOL GLACIER
KARA-TAU 3941m
AMANKAJA 3674m
DYCHSU GLACIER
USHGULI 4310m
NUAMKUAM GLACIER
NUAMKUAM 4182m
AILAMA 4525m
AILAMASU GLACIER
TSURUNGAL 4222m

SOUTH PEAK OF USHBA 4710m (FROM SOUTH: SCHULZE ROUTE AND HODGKIN FINISH)

Grade	**5B**
Time	**3-4 Days round trip from bivouac on the Gul Glacier (near Mazeri village).**
Descent	**Abseil back down the route (with some difficulty)**

When Douglas Freshfield, the earliest systematic explorer of the Caucasus, first saw Ushba he proclaimed: "There was no mistake about it, the Caucasian Matterhorn was found at last". The comparison is topographically inaccurate: whereas the ridges and faces of the Matterhorn all converge on its elegant summit, Ushba has two almost symmetrical summits. But, like the Matterhorn, Ushba has always been a mountain where ambitious climbers go to test themselves. Neither summit has any easy routes up it, and both have some of the hardest face climbs in the range, particularly on the West and North-East Faces. The South Peak is the more inaccessible of the two, and at 4710m slightly higher than its partner.

From the Gul Glacier (on the eastern side of the mountain) the obvious line of weakness is a long snow couloir leading to the col between the two summits. This was the route taken by the first ascensionists of Ushba North (Cockin and Almer in 1888). It is wildly dangerous and I know of no repeat ascents. In fact it is so dangerous that nobody in the Soviet Union believed that they had climbed it until Vladimir Kiesel found the note Cockin left on the summit in 1935. The next ascent of Ushba North was by the German team of Pfann, Distel and Leuchs in 1903. They traversed both summits, pioneering a new route up the North-East Ridge of Ushba North (4A). This has become the standard route and is mainly on snow and ice with two steep sections of about 50 degrees. Barely two weeks earlier, another German party of five climbers led by Schulze climbed a magnificent mixed route on the southern side of Ushba South, the route featured here and one of the finest and most challenging climbs in the range.

Viewed from the south the obvious obstacle on Ushba South is the great barrier wall (the so-called Red Wall) separating the lower snowfield (known as the Cravat) from the summit snowfields. It is here that the greatest technical difficulties are to be found, with several rock pitches of grade V and one of grade VI on the 150m above the Red Corner (the usual first bivouac site). On his first attempt Schulze took a 25m fall here and had to be evacuated unconscious back down to the Red Corner. Clearly made

of stern stuff he successfully returned to the fray four days later. Once the Red Wall has been overcome 600m of relatively easy mixed ground lead to the summit.

But fairly intricate climbing is required to reach the Red Wall. The route starts from the Gul Glacier on the eastern side of the mountain, climbing two couloirs and a short overhanging wall to reach the Mazeri Notch on the South Ridge. From there a 100m descending traverse leads to the lower slopes of the Cravat, giving access to the Cravat Couloir is followed for 600m to the Red Corner.

Part of the appeal of the Schulze route is its winding nature. Those who favour a more direct line might care to repeat the impressive direct finish put up by Robin Hodgkin, Michael Taylor and Bob Beaumont in 1937. Their route does not traverse onto the south face at all, taking the South Ridge direct above the Mazeri Notch for about 600m to reach some red towers at the bottom of the eastern edge of the Red Wall. From here a narrow horizontal groove is followed onto the East Face - a tension traverse was employed on the first ascent. Hard climbing up the East Face then leads to the upper snowfield. It is doubtful whether the route has had a second ascent.

Bibliography

Bender, pp.131-134

R. L. G. Irving, *Ten Great Mountains* (Dent and Sons, 1940) - account of first ascent

Audrey Salkeld and José Bermúdez, *At the Edge of Europe: Moutaineering in the Caucasus* (Hodder Headline, 1993) - Hodgkin variation in chapter 14

Vladimir Shataev, *Degrees of Difficulty* (The Mountaineers, 1987) - first winter ascent of Ushba by North-East Ridge

TETNULD 4974m (NORTH FACE BY THE SCIMITAR RIDGE)

Grade **4B**

Time **1/2 days from a bivouac on Nageb Glacier**

Tetnuld is slightly off the beaten track for visitors to the Caucasus. It is not within easy reach of the mountaineering camps around which Soviet climbing was organised, but for anyone in search of an imposing summit with greater isolation than the more accessible peaks in the Baksan and Bezingi areas, Tetnuld is a good choice. Its worth remembering, though, that walk-ins in the Caucasus are much longer than in the Alps, and the walk-in to Tetnuld is a long one even by Caucasian standards. And although its name means 'little white mountain in the Suanetian dialect, 4974m is not an altitude to be taken lightly.

Tetnuld is on a spur of the main Caucasian Ridge running due south from Gestola. The bottom of the featured route on the North Face can be reached from Camp Bezingi in two long days. It is a mountain journey that will appeal to the traditionally minded, crossing two major passes and ending up at a bivouac site near the foot of the steep slopes leading up to the Adish Plateau between Tetnuld and Gestola. This can also be reached from the Ingur Valley in Suanetia, reputed to be one of the most beautiful areas in the Caucaus, by a hard bash up the Zanner Glacier from Mestia (the capital of Suanetia).

Freshfield made the first ascent of Tetnuld in 1887 by the South-West Ridge. It is an easy snow route and still the standard way up and down the mountain. Longstaff and Rolleston repeated the route in 1903. They compared it to the Bionassay Ridge on Mont Blanc, but rather steeper. Another good route on Tetnuld is the North-East Ridge (4A). This was climbed in descent by Schintelmeister, Moldan and Poppinger in 1931, warming up for their success on the Bezingi Wall.

On the North Face there are two routes. The featured route, the Scimitar Ridge (4B), was climbed by John Jenkins and Michael Taylor in 1937. A direct line up the centre of the face was climbed at 5B in 1982 by five Soviet climbers led by Sergei Tjulpanov. It looks a fairly serious proposition, taking an uncompromising line beneath the serac barrier that runs across the top of the face.

John Jenkins described the North face of Tetnuld as "a perfect inverted parabola of snow and ice, crowned with a hanging rim of seracs", comparing it to the Brenva Face of Mont Blanc, and the North Face of the Jungfrau. The route he climbed with Michael

Taylor takes a beautiful and compelling line up the prominent scimitar-shaped snow ridge on the left side of the face.

As is clear on the photo both the approach and the lower portion of the route are heavily crevassed and rather tricky. Once through the crevasses getting onto the ridge is relatively straightforward, apart from a dangerous avalanche funnel just at the foot. The ridge itself is classically sharp and angled at abut 50 degrees. It merges into the snow/ice wall at the top of the face. The technical crux on the route comes near the top, in the ice gully between a rock band on the North-East Ridge and the serac wall guarding the upper part of the face. Steep and icy rocks at the head of the gully will give pause for thought.

Getting back down is rather tricky. The easiest way is down the North-East Ridge, but it has steep ice sections which may be impossible. The first ascensionists traversed the East Face before descending to the Adish Plateau. Certainly the easiest route would be down the South-West Ridge, but this leaves one a fair way from the start.

Bibliography

This route is not featured in the Bender guide, although the North-East and South-West Ridges are.

D. W. Freshfield, 'Six Weeks Travel in the Central Caucasus' reprinted in Audrey Salkeld and José Bermúdez, *At the Edge of Europe: Moutaineering in the Caucasus* (Hodder Headline, 1993) - account of first ascent and approach through Suanetia

J. R. Jenkins, 'Tetnuld Nordwand' reprinted in Audrey Salkeld and José Bermúdez, *At the Edge of Europe: Moutaineering in the Caucasus* (Hodder Headline, 1993) - first ascent of Scimitar Ridge. See also *AJ* 50, 1938.

Photo

Use n.14 in Salkeld/Bermúdez. Robin Hodgkin took it.