

British Phari Lapcha (Machermo) Expedition 2008



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Date: 1-26 November 2008
Location: Nepal, Khumbu region
Climbers: James Thacker and Andy Turner

Abstract: Attempt on the north face of Phari Lapcha (6017m) in the Nepalese Khumbu during November 2008. The expedition reached approx half height before unconsolidated snow and compact rock forced retreat.

Introduction

Phari Lapcha (6017m) lies in the popular Gokyo valley in Nepal, close to village of Gokyo and the source of the Dubh Kosi. Despite being a popular trekking area Phari Lapcha has only recently become a popular venue after being added to the permitted trekking peak list in 2002.

We were seeking an ice/mixed objective in the Himalayas that would be a good introduction to climbing alpine style in the Greater Ranges. Phari Lapcha seemed to fit the bill, having good access and being of a scale we were familiar with climbing in the European Alps. The team was small – Andy Turner and James Thacker; and we had climbed together frequently over the proceeding years. The ability to put up with each others varied foibles was (perhaps) essential. Despite failing on our primary objective, we had a successful trip making an ascent of ‘Snotty’s Gully’ on the nearby Dawa Peak otherwise known as Phari Lapcha West.

We hope that this report is useful for others visiting this popular region.

Expedition Diary

Please find below a basic day to day summary of the expedition:

1 Nov	Flight – Depart London Heathrow
2 Nov	Arrive Kathmandu via Doha
3 Nov	Kathmandu, supplies and permits etc
4 Nov	Delayed in KTM, no flights to Lukla.
5 Nov	Delayed in KTM, no flights to Lukla
6 Nov	Fly to Lukla, walk to Phakding.
7 Nov	Phakding to Namche Bazar
8 Nov	Namche Bazar local acclimatisation day
9 Nov	Namche Bazar to Dole
10 Nov	Dole to Gokyo
11 Nov	Acclimatisation and check out lines on the north face of Phari Lapcha.
12 Nov	Ascent of Gokyo Ri (5483m) and bivvy for acclimatisation
13 Nov	Descend Gokyo Ri (5483m), pack kit for Phari Lapcha
14 Nov	Attempt line of LHS of the north face of Phari Lapcha – retreat to Gokyo. (Tent noted at the base of the face from another unknown team).
15 Nov	Rest day
16 Nov	Recce/Rest Day
17 Nov	Start “Snotty’s Gully” on Dawa Peak (Bivvy)
18 Nov	“Snotty’s Gully” and descent to Machermo
19 Nov	Rest day Machermo
20 Nov	Machermo to Gokyo and return (pick up stashed bags)
21 Nov	Machermo to Namche Bazar
22 Nov	Namche Bazar to Lukla
23 Nov	Fly Lukla to KTM
24 Nov	Exped admin, change flight to UK.
25 Nov	Flight – KTM to Heathrow via Doha
26 Nov	Back in the UK.

Travel

International Flights: We flew from Heathrow – Doha – Kathmandu (KTM) with Qatar Airways. This season all flights seem to have increased in price dramatically. Qatar was reasonably competitive and offered a fairly standard 25kg baggage allowance. Arriving at the airport with in excess of 30kg each was a slight worry. However, a chance produced itself at the last minute in the form of a slightly damaged weighing machine. With judicious use of the British alpinist’s favourite ‘foot jammed under the scale’ trick, we magically came in at about 19kg each!!

Internal Flights: Internal flights were booked via our agent Iswari Paudel. This was particularly useful as bad weather in Lukla delayed us for a couple of days, resulting in chaos at the airport. We ended up waiting on standby at the hotel and eventually flew early on the first day of flights resuming. I do wonder if, without an agent, whether we would have left Kathmandu at all. For many people Lukla won't need any introduction as one of the most famous short take off and landing (STOL) airstrips in the world. The thought of some sort of technical problem during landing or take off doesn't bear thinking about.

The Walk In: This starts at the village of Lukla (2886m) high above the Dubh Kosi. We hired two porters here at the Paradise Lodge, before leaving to walk to Phakding immediately. The walk in was subsequently done in four short stages of generally 4-6 hours maximum so as to acclimatise gradually:

Lukla (2886m) to Phakding (2640m)
Phakding (2640m) to Namche Bazar (3440m)
Namche Bazar (3440m) to Khunde (3840m) to Namche Bazar (acclimatisation).
Namche Bazar (3440m) to Dole (4100m)
Dole (4100m) to Gokyo (4800m)

This approach could be broken down further by a stay in Machermo. We arrived in Gokyo with a minor headache.

Teahouses: Throughout the approach there were local teahouses. We opted to use these for accommodation, minimising loads and generally making for a convenient expedition. Many larger groups book in advance but as a team of two, we just turned up and were always catered for with ease. We stayed in the following lodges:

- Sunrise Lodge, Phakding
- Kala Patar Lodge, Namche Bazar – very friendly and popular with other visitors from Britain. The proprietor talked with enthusiasm about other British Alpinists such as Rich Cross, Nick Bullock, Al Powell etc.
- Yeti Lodge, Machermo
- Gokyo Resort Lodge, slightly more expensive than most, but in part due to the fact that it's the last in the valley. It also sports a bookshop and a satellite phone.

Rock: The area seems to be very complex geologically with Gneiss and metasediments the most obvious. Gokyo Ri is very obviously comprised of Gneiss which is very reminiscent of the Aiguille Rouge in Chamonix or indeed the Lemon Mountains in East Greenland. Phari Lapcha itself appears to comprise of metasediments low down (e.g. under the long horizontal terrace at the base of the face). Higher we were climbing on very compact fine grained granite, which was very homogenous and devoid of cracks.

Rockfall wasn't encountered at all on the north face of Phari Lapcha. However, the south side of the mountain was a different proposition, one of our ropes being badly damaged by rockfall while abseiling. There have been routes recorded on this side, although maybe one of the route names "The end of the beginning" may give a clue as to the quality of the rock!

Environmental considerations: The BMC and MEF environmental guidelines were adhered to during the trip. Staying in teahouses our impact was minimal with little rubbish generated staying locally. Some items were carried with us from the UK e.g. dehydrated meals for use on the route, Power Gels etc. These were returned to the UK for disposal along with headtorch batteries. Gas canisters were purchased in Namche Bazar and were sold back to the shop as all the gas wasn't used.

The Climbing

Phari Lapcha and Dawa Peak/Phari Lapcha West: a brief history of attempts/ascents

The first authorised ascent of the mountain was made in 2003 via the Upper Machermo Glacier. In November 2003 the mountain received a visit from Frenchmen Seb Constant and Jerome Mercader who climbed the inspiration line 'Bonfire of the Vanities'. ED1 M5 WI4.

In 2005, Owen Samuel and Andy Turner attempted to climb the north face but were quickly thwarted by deep unconsolidated snow.

October 2006 Constant returned to the Khumbu establishing 'The Oracle Night TD- V WI3+ M4, 750m. Constant's team had considered trying to make an integral traverse from Phari Lapcha to Dawa Peak/Phari Lapcha West. The attempt was aborted when they decided that they weren't sufficiently acclimatised.

Nick Bullock and Jon Bracey visited the area in late October 2007 and climbed 'Snotty's Gully' ED1 WI5 M5+ 1000m, named in memory of the late Sue Nott. They described the route as a potential classic and it didn't wait long for a repeat from Norwegians Halvor Dannevig and Nils Nielsen, who found it in excellent condition after giving up their plans on the North Face of Phari Lapcha due to lack of ice.

Also in autumn 2007 Fumitaka Ichimura and Hiroyuki Nakagawa, two Japanese alpinists, chose a thin goulotte towards the centre Phari Lapcha's north face. This direct line was eventually forced right at half-height to finish up Bonfire, creating a 24-pitch route at ED1, WI 4 R.

Later in January 2008 Andy Parkin, on his first visit to the Khumbu, soloed the big mixed face on Dawa Peak. Being pretty "handy" he climbed down the East Ridge past the exit of Snotty's Gully and then descended an easier line on the North East Face.

Nomenclature of Peaks

Most of the peaks in the area seem to suffer from having multiple names. It appears that 'Phari Lapcha' was also thought to be 'Machermo' by Seb Constant initially. 'Machermo' being the small largely rock summit to the left of Phari Lapcha.

Jon Bracey and Nick Bullock dubbed their peak Phari Lapcha West following their ascent of "Snotty's Gully". However, subsequent parties have referred to this as 'Dawa Peak'. During our stay in the area nobody we spoke to had ever heard the peak referred to as 'Dawa' (meaning Monday). Guess you can take your choice.

Some parties seem to have referred to Dawa as Phari Lapcha West as a preference. I would suspect that this is due to most parties being granted permits for Phari Lapcha.



(Above) Phari Lapcha group from Gokyo. A=Phari Lapcha (6017m), B=Dawa Peak/Phari Lapcha West (5977m).

Acclimatisation

See Diary. We took a fairly steady schedule on the approach, with acclimatisation days in Namche Bazar and in Gokyo. Following this we ascended the popular trekking peak of Gokyo Ri and bivvied overnight at its summit.

Gokyo Ri is also an excellent view point. As well as affording good views of Everest and Nupste we could also scope out lines on the North Face of Phari Lapcha and Phari Lapcha West/Dawa Peak.

Style and Tactics

The plan on both attempts was to climb in alpine style with a small alpine rack. Aid, or extensive sac hauling etc wasn't envisaged and indeed wasn't required. On both climbs we left Gokyo Resort lodge at just before first light, allowing us to negotiate the moraine at the base of the face in daylight. There are cairns here, marking the best route, but they are very difficult to follow in the dark.

We simply started climbing and aimed to bivvy at a suitable spot. We opted not to take a tent considering the terrain to be too steep for the most part. As a back up we did have a small shelter tent/bothy bag to keep spindrift off us while cooking and sleeping etc.

The Attempted line on Phari Lapcha



(Above) Phari Lapcha North face. The line marks our attempt on the face, X marking out highpoint in a granite rock band. We suspect that the central line to the right was also attempted by and Italian Team.

Having reconnoitered the face from a number of positions, we opted to attempt the left hand line marked in the image above. Shortly before our attempt another team was spotted on the central line. Having looked at the base of the face we saw no evidence that anybody had been there and our own observations suggested thin ice and poor snow.

We left Gokyo at 5am on the 14th November negotiating the moraine at the base of the face in day light. An initial section of Scottish III allowed us to gain access to the first snowfield where we discovered some terrifying snow conditions. This varied between unconsolidated sugary snow which appeared to be bottomless, and hard wind slab with an air void underneath. Hugging the left hand side of the snow field we were able to make progress, moving together as appropriate.

Above this the ground was much steeper: a ramp system leading through the steep rock band of homogenous granite. Here we climbed two to three pitches on loose snow, and tricky mixed ground until we decided to retreat (two knife blades mark Andy's high point).

Descent was made with a series of abseils, many on abalokov's by digging down to hard glacier ice, combined with some down climbing.

We arrived back to Gokyo Resort lodge at about 8pm having stumbled through the moraine at the bottom of the face.

With the snow conditions we encountered a rethink was required. Noticing that the best conditions appeared to be on “Snotty’s Gully”, we decided to attempt a repeat. It appears that this line gets a little more sun, resulting in better neve and water ice.

Snotty’s Gully



(Above) Dawa Peak/Phari Lapcha West (5977m) taken from the Gokyo Valley. The line marks “Snotty’s Gully”, ED1 WI5, M5+ c1000m of climbing.

Leaving Gokyo at 5am on the 17th November we climbed to approximately two thirds height with difficulties up to WI5 and M5+. Conditions were variable, with some unconsolidated snow low down and on the approach to the lower gully. Water ice in the upper gully was good, but often thin, only just taking screws. After an open bivvy, the final water ice pitches led to the summit ridge.

Descent was made by down climbing a small rock rib just short of the summit, and making a series of abseils to the Upper Machermo Glacier. We reached Machermo village on the 18th Nov.

Equipment

Climbing Hardware

We took a fairly standard alpine rack, not envisaging doing any aid climbing. This comprised of:

1x	Set of DMM Wallnuts 1-10
4x	BD Camalots
10x	Quickdraws
8x	BD Ice screws (various)
Qty	Pegs
2x	Abolokov threaders
Qty	Slings
Qty	abseil tat

This quantity of equipment was more than adequate for the climbing on Phari Lapcha. However, if you anticipate trying harder mixed lines a beefed up rack might well be a good idea.

In addition to the above we took 2x60m Beal Iceline's which were ideal for alpine style climbing.

We both took Petzl Charlet tools: Quarks and Nomics. These were ideal for the conditions encountered, although Andy did miss having more traditional tools while plunging in loose snow. We both chose to take crampons with a vertical orientated front point, BD Siaborg's and Petzl Charlet Vasaks. Both were excellent on the hard water ice pitches.

Clothing and Rucksacs etc

We used Haglofs and Mountain Equipment Clothing, and OMM Villain Rucksacs. These were an ideal size at 40-45litres, big enough for the approach but still a good size to climb with.

Tents

We took a thin single skin Gore Tex tent loaned to us by Dave Hollinger. We didn't use this in the end, opting for an open bivvy instead.

Stoves and Gas

We purchased gas in Namche Bazar due to the problems associated with transporting small quantities in by air. Gas is readily available although some is more than likely to be butane in refilled cans. It's definitely worth paying a good price for it.

There are a few brands available, we chose Himalyan Fuel in yellow cans, this being a butane/propane mix which works much better at altitude. Many other brands are moving over to a 50/50 butane/propane mix, or worse isobutane which is terrible from our experience.

Food and Stores

We bought some food from Britain, working on six days of "route" food. This was essentially dehydrated meals for use on the route, power gels and sundry items. With hindsight, more of this sort of food would have been an advantage. Chocolate bars, biscuits and snacks were widely available in teahouses at a premium price. The alternative is to try and buy these items in bulk, they are widely available in Kathmandu.

Gear Sponsorship

We are immensely indebted to the following companies, who provided substantial assistance to the expedition in the supply of large amounts of equipment detailed below.

Haglofs. This was the extension of support for James Thacker, providing additional clothing and equipment. Special thanks to Maria Chilvers and Sam Hebrow who ensured that everything arrived in good time – thank you!

Mountain Equipment. ME generously supplied kit for Andy Turner as well as sleeping bags for both team members, and other various items. This gear being offered as part of the company's commitment to the Mark Clifford Award, <http://www.markclifford.co.uk>

Lyon Equipment. Supported the expedition by supplying ice tools, and most importantly good quality boots in the form of La Sportiva Spantiks. These were excellent to climb in, being light and comfortable.

Original Mountain Marathon, OMM. Mike Parsons also stepped in at the last minute to supply us with good quality rucksacks in the form of The Villain 45. These were again excellent.

CauseandFX. Andy Wild also was a major contributor to the trip by suggesting that we take a Mini DV camera to take some video footage. He then proceeded to supply the camera, tapes and is currently editing the footage. Due to our general lack of ability with technology he also found the time to knock up an expedition website <http://pharilapcha2008.weebly.com/>. Hopefully, in time, this report will be available for download on this site.

CampFour. Dave Golding of CampFour in Macclesfield generously provided a pair of Beal Icelines. In his words "they are going on a bit of an adventure". Sadly, he wasn't wrong: one of them got the chop abseiling down to the glacier!

Personnel

Expedition Members

The expedition comprised of two members:

James Thacker, Mountaineering Instructor, British.

Experience: Member of the British Lemon Mountains 2000 Expedition (East Greenland), First Ascents of 'The Steeple' and 'Citadel' as well as ski mountaineering and exploration of the Chisel Glacier region. Trips to the European Alps, in both summer and winter. North Face of Eiger (1938 route), North Face of Les Droites (Legarde Couloir and Ginat), North Face of Aiguille Sans Nom, as well as ascents of rock routes such as the 'Comici', Cima Grande des Laverado, 'Cassin', Piz Badile and NW Pillar of Pizzo Cengalo. Scottish Winter ascents to VI,7 including, Minus One Gully (VI,6), Central Buttress of Beinn Eighe (VI,7), Salmon Leap (VI,6), Silver Tear (V,5), Astral Highway (VI,5) etc.

Andrew Turner (37), Mountaineering Instructor (currently at Plas Y Brenin), British.

Experience: Member of the British Machermo 2005 Expedition, attempt resulted in retreat low down on the face due to poor conditions. 'Compressor Route', Cerro Torre and attempt on 'Franco-Argentine', Fitzroy. Leader of commercial expedition (Adventure Peaks) to Pumori and Island Peak in 2005. Trips to European Alps in both summer and winter. North Face of Matterhorn, North Face of Grands Charmoz, Couturier Couloir, North Face of Les Droites (Ginat), and Supercouloir as well as ascents of rock routes such as the 'American Direct', 'West Ridge of the Salbitschijen', 'Gervassutti Pillar'. Broad Scottish winter experience including mixed 'horror routes': FA Sioux Wall (VIII,8), FWA Stalking Horse (VI,7), FA Rumplestiltskin (VII,8), Neanderthal (VII,7), Unicorn (VIII,8), The Vicar (VIII,8). Salmon Leap

(VI,6), Psychedelic Wall (VI,5), and The Secret (IX,9).

The expedition didn't suffer from any mishap or illness. However, a team of three may have been preferable in the case of one team member becoming incapacitated in any way. There would be no hardship climbing on big alpine routes assuming you are competent with your ropework.

Agent

We used Iswari Paudel from **Himalayan Guides Nepal**, Treks & Expedition Pvt. Ltd, P.O. Box No: 20654, Thamel, Kathmandu, Nepal. Tel: 4268211, 4260205 Fax: 00977-1-4260205
E-mail: himguidenp@hons.com.np, basecamp@hons.com.np
Website: <http://www.himalayanguides.com>

Iswari provided an excellent service as usual. His assistance was particularly useful trying to get out of Kathmandu to Lukla after three days of bad weather. It was carnage in the airport.

Porters

We hired porters from the Paradise Lodge in Lukla on the approach and Machermo on return. In both cases they were quite pushy but not militant, we got the impression that they would quite happily take advantage given the chance. I guess this is an inevitable problem in such a popular area. Although we suffered no problems, I got the distinct impression that they will try and work with the larger trips where they can get greater tips etc.

In many cases it was best to negotiate with them with the proprietor of the teahouse around. Under such circumstances they seemed much more co-operative.

Finance

We were extremely fortunate to get four grants combined with additional financial assistance, with much of our clothing and equipment supplied free of charge. Just prior to leaving the US\$ and GBP£ dropped dramatically due to the global financial situation. Sadly, this left us over our anticipated budget and resulted in additional personal contributions.

Without the generous support of The Mark Clifford Award, The British Mountaineering Council, The Mount Everest Foundation, The Alpine Club Climbing Fund and CauseandFX the trip would simply not have been possible.

Detailed accounts appear on the next page:

Accounts: British Phari Lapcha/Machermo 2008

Costs	Bud GBP	US\$	GBP £	Income	Bud GBP	US\$	GBP £
International Travel (Manchester-KTM)		1200	2777.48	1394.42			
Domestic Travel (KTM-Lukla-KTM)	inc above		484	282			
National Park Fee	n/a		32	16.07			
Peak Permit		620	1000	502.15			
Agency Fees		100	200	100.43			
Garbage Deposit		200	500	251.08			
Food and Stores		200		200			
Local Labour			94	54.64			
BMC Insurance				504.75			
Accom KTM				200			
UK items				48.5			
UK Transport				75			
Totals		2320	5087.48	£3,629.04	0	0	3510

Notes	US\$	GBP £
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Other objectives

Phari Lapcha's central face still remains unclimbed as far as we are aware (Andy Parkin is out there as I write this!). It appears that good conditions are elusive but not unheard of. As such it's only a matter of time before somebody succeeds. Our feeling was that the conditions were improving slowly over time; as such the winter season might be a better bet.

The South side of Phari Lapcha, although climbed by Norwegian's should really be avoided unless you fancy battling up routes under a hail of stonefall.

The nearby north face of Kyajo Ri might yield a similar objective although it looks more technical than Phari Lapcha itself. It is also likely to suffer from the same conditions given that it is exactly the same aspect and of a similar elevation.

There is also a summit attempted by Norwegian's between Dawa Peak and the Renjo La, at approx 5600m.

The 'integral' ridge traverse between Phari Lapcha and Dawa Peak/Phari Lapcha West remains unclimbed and represents a fine challenge – a likely multiple day adventure at nearly 6000m.

In Kathmandu

During our stay in Kathmandu we did visit some good places to eat. When killing time the following are useful:

Fire and Ice Pizza. <http://www.fireandicepizzeria.com/in/index.html>

Kilroys. <http://www.kilroygroup.com/>

Himalyan Java. Good coffee and cake! <http://www.himalyanjava.com/>

Thanks

To Seb Constant and Petzl for the video that inspired the trip, Rory Gregory and Tom Richardson for their considerable enthusiasm, faith and knowledge of the area. Lindsay Griffin, Andy Parkin, and Nick Colton, for keeping us up to speed with other attempts/ascents.

The BMC, MEF, Mark Clifford Award and the Alpine Club Climbing Fund. Andy Wild and CauseandFX for financial assistance combined with technology mentoring!

A big thanks to everybody who supplied equipment, saving a fortune: Maria Chilvers and Sam Hebrov at Haglofs, Rich Talbot and Andrew Denton at Mountain Equipment. Mike Parsons and Stuart Smith at OMM. Martin Rhodes, Ben Cooper and Mike Cole for their advice and procurement of all sorts of drugs. Dave Golding and everybody at CampFour.

Iswari Paudel and the team at Himalyan Guides Nepal for all their help and bribes to get us on flights when way over the baggage limit.

Also the guys at Outside in Hathersage and Lakeland Climber, for all those last minute essentials.

Andy Turner would also like to thank the nice young lady who claimed to be researching the next "Lonely Planet Guide" for being so accommodating.

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The compilers of this report and the members of the expedition agree that any or all of this report may be copied for the purposes of private research.

Appendix One: Contacts

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Mark Clifford Award <http://www.markclifford.co.uk>

Alpine Club <http://www.alpine-club.org.uk/>

Mount Everest Foundation <http://www.mef.org.uk/>

The BMC <http://www.thebmc.co.uk/>

CauseandFX <http://www.causeandfx.co.uk/>

Haglofs <http://www.haglofs.se>

Mountain Equipment <http://www.mountain-equipment.co.uk/>

OMM <http://www.theomm.com/>

CampFour <http://www.campfour.co.uk/>

Lakes Climber <http://www.lakesclimber.com/>

Lyon Equipment <http://www.lyon.co.uk/>

Appendix Two: Medical Kit

With just a two person expedition we opted to keep the medical kit simple with the following essentials. For a larger trip (either in numbers or duration) you might consider increasing the list below to include drugs/treatments for dental and eye conditions as well as proper analgesia e.g. Morphine.

Altitude sickness		
acetazolamide 250mg	one tab 2 x day	
nifedipine 20mg m/r	one tab 2 x day	high altitude pulmonary oedema may increase to 4 x day
dexamethasone 4mg	two tabs then one tab every six hours	high altitude cerebral oedema
Antibiotics		
amoxicillin 500mg	one tab 3 x day 6 tabs at once	respiratory/ear/urine infections dental abscess
erythromycin 500mg	one tab 3 x day	respiratory/ear/urine infections - if penicillin allergic
ciprofloxacin 500mg	one tab 2 x day	gastrointestinal/urine/respiratory infections
flucloxacillin 500mg	one tab 4 x day	skin infections
Analgaesics		
paracetamol 500mg	two tablets 4 x day	
ibuprofen 400mg	one tablet 3 x day	
tramadol 50mg	one or two tabs 4 x day	moderate/severe pain nb all 3 analgaesics can be taken in combination
Cardiac		
aspirin 300mg	one tablet chewed	suspected heart attack
Gastrointestinal		
loperamide 2mg	two tablets then one after each loose stool	diarrhoea
Respiratory		
throat lozenges	as needed	
Intramuscular injections		
epinephrine 1mg/1ml	0.5 mls may repeat	life-threatening allergic reaction (= anaphylaxis) give oxygen if available
metoclopramide 10mg/2ml	2ml	give with morphine to reduce vomiting

Appendix Three: References

AAJ 2004 Volume 46 Issue 78, p394-398 details of ascent of W Ridge and N Face 'Bonfire of the Vanities'.

Video <http://en.petzl.com/petzl/frontoffice/Sport/static/Video/alpinisme/video/bonfire.htm>

Alpinist Website, First and Second Ascents in the Khumbu
<http://www.alpinist.com/doc/web07f/newswire-first-second-ascents-khumbu>

Alpinist Website, Britons make fine first ascent on Phari Lapcha West
<http://www.alpinist.com/doc/ALP17/newswire-phari-lapcha-machermo-snotty's>

Alpine Club, Solo in the Khumbu http://www.alpine-club.org.uk/Solo_in_the_khumbu_000.htm

Alpinist Website, Constant returns to Nepal's Khumbu
<http://www.alpinist.com/doc/ALP18/newswire-constant-returns-nepals-khumbu>

Alpinist Website, Phari Lapcha <http://www.alpinist.com/doc/ALP06/climbing-note-constant/>

Mountain Info: Lots of information available as pdf downloads from
<http://www.climbmagazine.com/Login.aspx?ReturnUrl=%2fmountain-articles.aspx>

Appendix Four: Sketch Map