

TATSUO (TIM) INOUE

47 Six-thousanders in the Kangri Garpo Mountains

Introduction

The 280km-length Kangri Garpo Mountains lies on the east Tibet from Tongmai to Zayul near the great bend of Yarlung Zangbo. In 1933, a plant hunter Frank Kingdon Ward visited Ata Qu and passed Ata Kang La. He took a picture of Choembo (Fig. 1), the highest peak in the Kangri Garpo Mountains. He supposed that he had seen the summit. It was a remarkable exploration to the range where he made the first discovery of the highest peak. The peak Choembo is called Ruoni Feng or

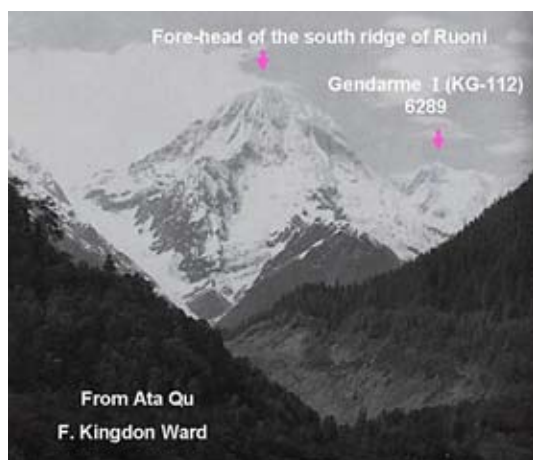


Fig. 1 Choembo from Ata Qu

Bairiga (6,882m) today. Kangri Garpo has still many unexplored valleys and mountains to date. The said old picture motivated us to study and plan expeditions to Kangri Garpo. But we could not identify the picture taken by F. Kingdon Ward for many years. A picture taken from Camp-3 by the Alpine Club of Kobe University (ACKU) in 2009 and a picture from the south on the Bimaque Glacier (or the Ata Kang La Glacier) near Ata Kang La by JAC Ski party in 2008 clearly projected Ruoni Gendarme I (KG-112 6,289m) that is also seen in the picture of F. Kingdon Ward. Those are definitive evidences of the camera location of F. Kingdon Ward. His picture captured the fore-summit on the south ridge of Ruoni.

Questions raised during my studying peaks are as follows;

- 1) The order of altitude around "Three Ata Sisters;" (We refer to KG-1, KG-2 and KG-3 as Three Ata Sisters)
- 2) The altitude of KG-1 (Ruoni)
- 3) Where is P6,443m (KG-37)?
- 4) The ridge connection around the watershed of the Ata Glacier
- 5) Which peak is the highest in the Lhagu Glacier, KG-17 or KG-18 (Gongyada)?
- 6) Which peak is the fourth highest in Kangri Garpo, KG-37, KG-18 or KG-17?
- 7) Figure of mysterious Kone Kangri (KG-51)
- 8) Visibility of P6,327m (KG-22) and KG-23 (6010m)
- 9) Existence of Gheni III (KG-38 6,020m) and KG-26 (6,000m)
- 10) Pass between the Ata Glacier and the Lhagu Glacier
- 11) Existence of P6,082m (KG-35) on the west ridge of Ruoni (KG-1)

The first ascent of the mountain, "White Hawk" Lopchin Feng (KG-2, 6,805m) was made by two Tibetan students, Deqing Ouzhu and Ciren Danda, on 5th November 2009, and two Japanese, Masanori Yazaki and Koichiro Kondo (student), on 7th November 2009; the Joint Scientific and Mountaineering Expedition organized by ACKU and the Mountaineering Association of Chinese

University of Geosciences (CUG, Wuhan) led by co-leaders Tim Inoue and Dong Fan. This is the only one climbing record out of 47 six-thousanders through the range to date.

List of Six-thousanders (List 1)

It is surmised that 100 or more un-climbed five and six-thousanders exist in the range. No one clarified the whole picture of peaks till today. The purpose of this article is to introduce unclimbed, unknown and hidden six-thousanders in the range.

I studied the mountains through existing reports and pictures taken by the explorers such as Tom Nakamura, Yukio Matsumoto, Kazuki Tsuji, Hideki Watanabe, Takeru Nakayama, Tairou Tokunaga, Haruhisa Kato, Hidehiro Ito, Osamu Matsuo, Kaneshige Ikeda and Hideo Nishigori in addition to our photos and reports of the ACKU expeditions in 2002, 2003, 2007 and 2009. They provided me many important data. I appreciate their contribution to this article.

The sketch maps shown in this report were charted by myself based on Google Map with peak numbers "KG-##," names and altitudes that were the result of peak identification through analyzing photos and reports. The altitudes and locations shown in the 47 peaks list (List 1) are much relied on ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer) GDEM (Global Digital Elevation Model; Map Datum WGS84). The altitude estimation partly referred to existing Chinese maps (Chinese People's Liberation Army(PLA)) , old Soviet Union maps and the sketch map attached to the book "East of Himalaya; the Kangri Garpo Mountains" edited by Yukio Matsumoto. To estimate altitude of peaks, ASTER GDEM was more reliable than the data extracted from Google Earth, Google Map and SRTM (The Shuttle Radar Topography Mission). I have mostly chosen the highest numbers of altitude in the 47 six-thousanders if the peaks have multiple data sources. The list includes minor peaks which I have decided as minor with my subjective opinion. I cannot conclude that there is no more hidden six-thousander in the range. I hope anyone will quest and find more peaks.

I found a few tendencies that the altitude data extracted from ASTER and Google Earth indicate lower height numbers on the sharp or thin summit structure peaks than that of actual numbers and little lower numbers on the massive or round shape summit peaks. I assume that all data extracted from the satellite survey indicates lower than those of actual.

Peak Identification

The Kangri Garpo Mountains is large and still unknown. I hope I will be given further information by visitors and climbers who will visit the range. I recommend them to take pictures with GPS data. Even though he or she takes a picture without knowledge of a mountain, it is possible to identify later if the digital photo data has time and location.

The six-thousanders stand on the five areas.

- (1) Delupola - Kone Kangri Range (Map-1 and 2),
- (2) Genikutz - Gensongu Range (Map-3),
- (3) Lhagu Glacier Range (Map-4),
- (4) Ata Glacier Range (Map-5 and 6)
- (5) Gheni Feng Range (Map-6 and 7)

According to this classification, I have tried to identify peaks on the pictures and locate peaks in the sketch maps.

- (1) Delupola - Kone Kangri Range (Map-1 and 2)

NO	Peak ID	Name		Altitude (m)	°	'	″	°	'	″	Comment
					Location N			Location E			
1	KG-1	Ruoni	Bairiga	6882	29	9	60	96	43	24	The Highest Peak in the Kangri Garpo Mountains
2	KG-2	Lopchin		6805	29	11	59	96	41	39	1st Ascent by ACKU , 2009
3	KG-3			6726	29	13	45	96	40	52	
4	KG-37			6554	29	14	28	96	40	18	KG-3- II Soviet U P6443m
5	KG-17			6536	29	22	35	96	30	28	The Highest Peak in the Lhagu Glacier
6	KG-18	Gemsongu		6525	29	23	26	96	29	41	
7	KG-12	Gongyada		6482	29	19	24	96	36	29	Hiqen-1
8	KG-9	Luqendo I	I -1	6449	29	17	1	96	39	27	
9	KG-33			6441	29	10	24	96	42	7	Satellite Peak of Ruoni
10	KG-10	Luqendo II	II -1	6390	29	17	58	96	38	54	
11	KG-16			6377	29	21	60	96	31	24	
12	KG-34	Noi		6377	29	23	20	96	30	37	Lhagu Glacier Origin
13	KG-9	Luqendo I	I -2	6350	29	17	2	96	39	15	
14	KG-15			6350	29	21	47	96	32	5	
15	KG-51	Kone Kangri	I	6347	29	37	7	96	3	18	
16	KG-52	Delupola	I	6343	29	39	18	96	2	25	
17	KG-5			6340	29	15	18	96	41	28	
18	KG-22			6327	29	6	52	97	4	39	P6327m
19	KG-9	Luqendo I	I -3	6306	29	17	10	96	38	48	
20	KG-14			6293	29	20	60	96	33	13	
21	KG-4			6290	29	15	45	96	40	19	
22	KG-112	Ruoni Gendarme	I	6289	29	10	26	96	44	26	Ata Glacier
23	KG-10	Luqendo II	II -2	6278	29	17	41	96	38	29	
24	KG-19	Hamokongga		6260	29	24	18	96	36	3	Dojizandoi
25	KG-41			6238	29	25	54	96	21	42	
26	KG-20	Genikutz		6233	29	24	6	96	26	41	
27	KG-39			6211	29	23	48	96	28	43	Midui Glacier Divide
28	KG-13	Zeh		6177	29	20	16	96	36	57	Hiqen-3
29	KG-24	Gheni	I	6150	29	11	51	96	58	10	
30	KG-51	Kone Kangri	II	6143	29	36	25	96	4	44	
31	KG-52	Delupola	III	6140	29	38	58	96	4	19	
32	KG-40			6101	29	24	6	96	27	49	Midui Glacier Divide
33	KG-11			6091	29	18	40	96	36	34	Hiqen-3
34	KG-25	Gheni	II	6085	29	12	9	96	57	3	
35	KG-35			6082	29	7	31	26	33	21	West Ridge of Ruoni
36	KG-55			6077	29	33	15	96	0	54	
37	KG-6	I		6076	29	15	56	96	43	3	
38	KG-52	Delupola	II	6065	29	38	46	96	3	31	
39	KG-57		I	6050	29	37	36	95	53	39	Dong Chu Zangbo / III can be seen from Parlung Zangbo
40	KG-51	Kone Kangri	III	6041	29	36	32	96	5	26	
41	KG-54			6040	29	34	14	96	3	4	
42	KG-6	III	Zyaddo	6025	29	16	10	96	44	3	
43	KG-38	Gheni	III	6020	29	12	49	96	56	29	
44	KG-23			6010	29	9	21	97	1	59	
45	KG-6	II		6003	29	16	19	96	43	28	
46	KG-21			6000	29	22	59	96	25	25	Xinguo Longba Divide (South of Mimai)
47	KG-26			6000	29	12	27	96	54	40	Little Gheni Glacier

List. 1 47 Six-thousanders in the Kangri Garpo Mountains

Questing six-thousanders in the map or GDEM data requires much patience. But it is exciting if a possible six-thousander is discovered. There are supposed to be nine six-thousanders in this range. The highest two peaks are Kone Kangri (6,347m) and Delupola (6,343m). These peaks are identified in the Chinese topography, but no name was found in the map.

Passengers travelling the Road G318 along the Parlung Zangbo near Song Zong have often seen the Delupola Group. The group has three peaks of Delupola I (6,343m, main peak), II (6,065m) and III (6,140m). Tom Nakamura, Hideki Watanabe and I took pictures of these peaks. (Fig. 2)

From Road G318, Tom Nakamura took a picture of KG-79 (5,841m) and KG-57 III (5,700m) standing alongside (Fig. 3). He supposed to aim KG-57 (6,000m, one of hidden six-thousanders), but the main peak of KG-57 could not be seen from Road G318. He took a picture of KG-57 III.



Fig. 2 Delupola



Fig. 3 KG-57 III

Discovery of Kone Kangri (6,347m)

In September and October 1999, Hideo Nishigori and his Gakushuin University party explored the Gone Glacier to find possible climbing route to Kone Kangri. They reached upper side of Gone Lake just on the snout of the Gone Glacier. They could not see the peak and no route to the top were found. In autumn 2009, Tom Nakamura trekked in the valley of Dong Chu Zangbo and reached the deepest confluence. He could take nice pictures of Delupola (6,343m) and Kangri Karpo (5,470m), but Kone Kangri was not visible from the valley where his party stepped on.

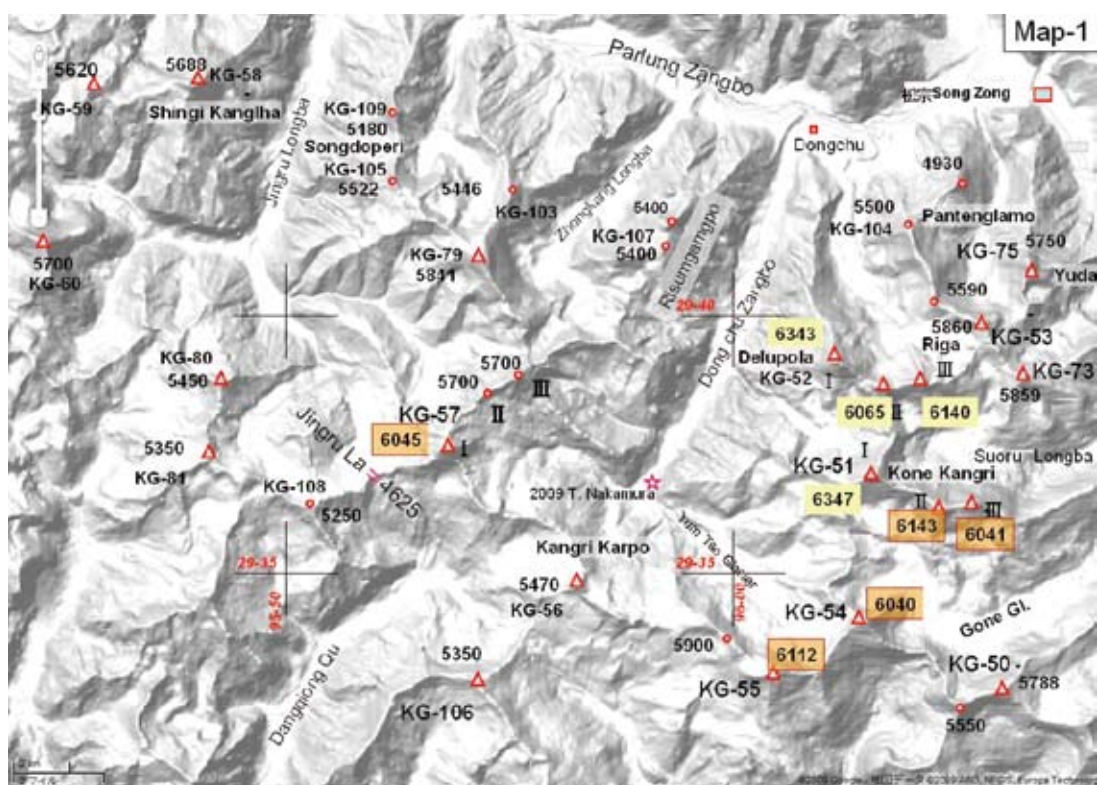
In late autumn 2009, Shigeaki Yamamoto who was the climbing leader of the Lopchin Feng Expedition (organized by ACKU and CUGW) took a picture toward Kone Kangri range at N29° 03'43" E96° 18'04" , altitude 3500m on Road G318, in the upper valley of Yupu Town (Fig. 4). He did not distinguish that the picture captured the summit of Kone Kangri and the north ridge linking to Delupola II. Recently, I happened to find the shot which identified the appearance of Kone Kangri in the picture through my analysis work. The date and time of the digital picture and the GPS data provided me the location of the shot. The 3D image extracted from ASTER GDEM and Google Earth were good evidences of my peak identification. This is the first discovery of Kone Kangri figure. Kone Kangri group has three peaks, Kone Kangri I (6347m), II (6143m) and III (6041m). The appearance of Kone Kangri II and III are not captured to date.

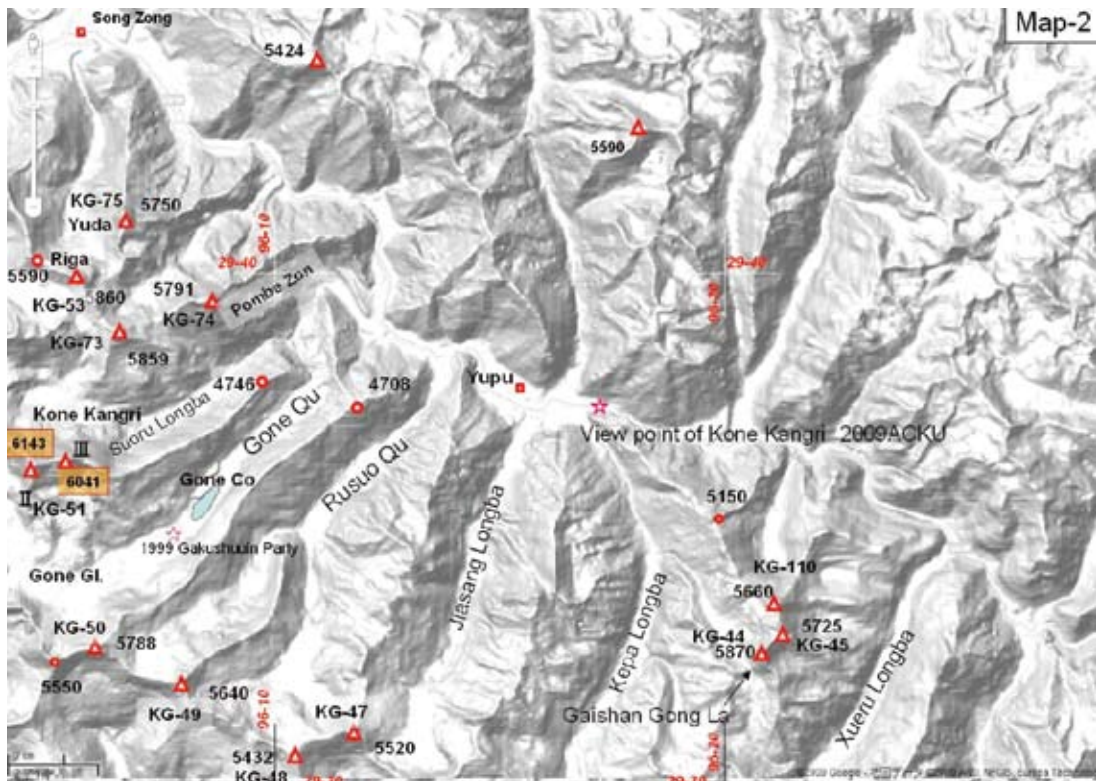
Hidden Six-thousanders in this range

Kone Kangri II (6,143m), III (6,041m), KG-54 (6,040m), KG-55 (6,112m) and KG-57 I (6,045m) are still unknown in this range. KG-53 (Riga 5,860m), KG-73 (5,859m), KG-74 (Pombazon 5,791m), KG-75 (Yuda 5,750m) are not six-thousanders, but have attractive appearances. Riga, Pombazon and



Fig. 4 Kone Kangri I and Delupola rock towers





Yuda are sacred mountains of Tibet Buddhism.

KG-44 (5,870m) can be seen from Yupu town. The steep slope of the south-west flank comes down to Gaishan Gong La where an old trail was passing through. Between KG-50 (5,788m) and KG-41 (6,238m), the main ridge of Kangri Garpo lowers its elevation and no six-thousanders could be found.

(2) Genikutz - Gemsongu Range (Map-3)

The main ridge of Kangri Garpo meets the Lhagu Glacier at KG-34 (Noi 6,377m) and KG-17 (6,536m). Xueru Longba, Xinguo Longba and Midui Longba are flowing north from the divide of Kangri Garpo. There are eight six-thousanders, KG-18 (Gemsongu 6,525m), KG-19 (Hamokongga, 6,260m), KG-20 (Genikutz 6,233m), KG-21 (6,000m), KG-34 (Noi 6,377m), KG-39 (6,211m), KG-40 (6,101m) and KG-41 (6,238m).

KG41 (6,238m) recognition

Tom Nakamura provided me a picture of a peak (Fig. 5) taken at the confluence in the deep valley near the snout of the west Xinguo Longba Glacier in the autumn of 2009 where the tributaries of the west and the east Xinguo Longba Glacier merge.

One more important picture was provided by Haruhisa Kato, a member of the Silver Turtle trekking party in 2006, who took it on the top of Snow Dome (5,900m) in Lhagu Glacier (Fig. 6). These pictures have a figure-point that is clearly recognized. I had identified the peak as KG-41 (6,238m).

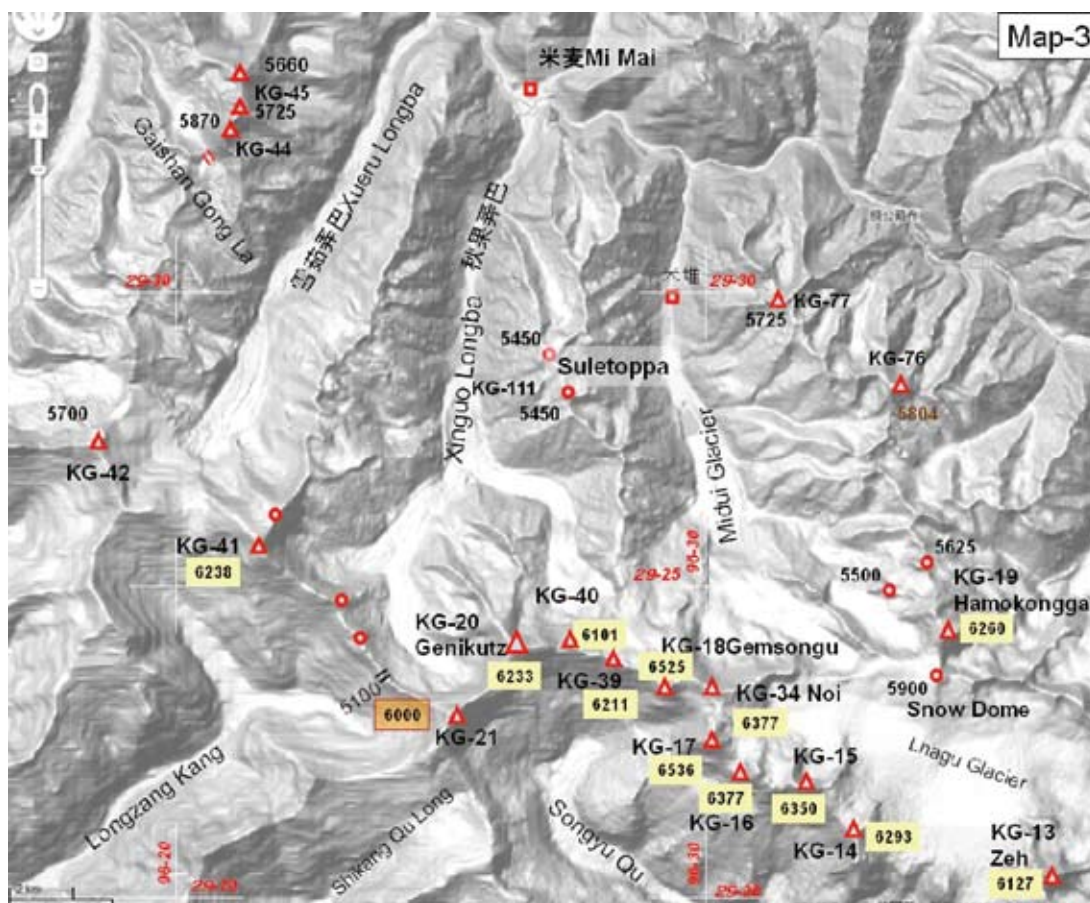


Fig. 5 KG-41 (6,238m) from Xinguo Longba



Fig. 6 KG-41 (6,238m) from Snow Dome

Where is Genikutz?

Identification of the peak named Genikutz is still open for debate. As an assumption, I put the name Genikutz on KG-20 (6,233m) after having received opinions from Hideki Watanabe and Takeru Nakayama. Watanabe put the name on the peaks of KG-39, 40, 20 and 21 as a group name (Fig. 7, 8 and 9). Nakayama put the name on the East peak of KG-40 because of his hearing from a local



Fig. 7 KG-20 (Genikutz? 6233m)

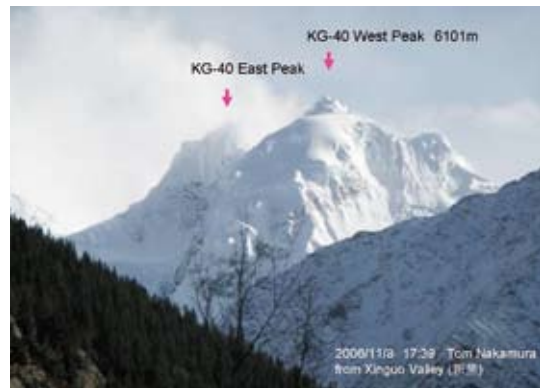


Fig. 8 Twin peaks of KG-40 (6101m)

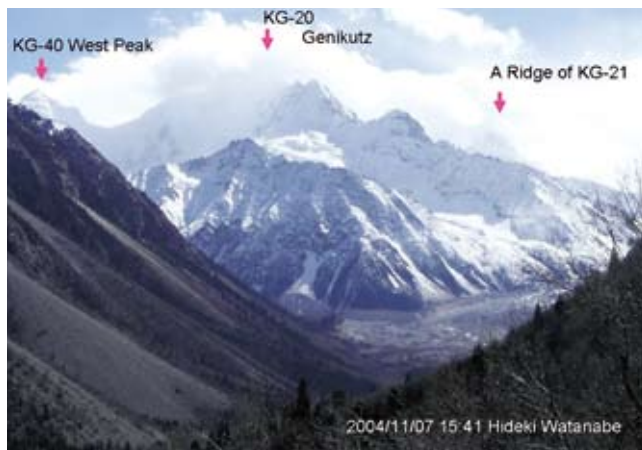


Fig. 9 Mysterious KG-21

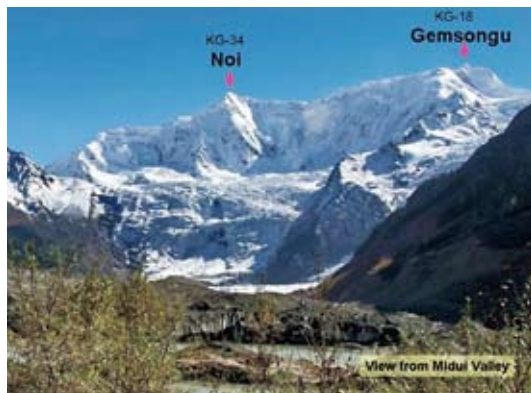


Fig. 10 KG-18 (Gemsongu 6,525m) & KG-34 (Noi 6,377m)



Fig. 11 KG-39 (6,211m) and East Peak of KG-40 (6,101m)

person of Midui village (Fig. 11). The twin peaks of KG-39 and the east peak of KG-40 can be seen from Midui valley. The west peak of KG-40 is not visible from Midui valley. KG-39 and KG-40 are both twin peaks.

Hideki Watanabe tried to take a picture of KG-21 (6,000m) at the confluence of the East and West

Xinguo Longba Glacier. The ridge to the top of KG-21 appears in his picture, but unfortunately the summit is covered with cloud. KG-21 is a missing peak to date (Fig. 9).

Gemsongu and Noi

Gemsongu (KG-18 6,525m) looks standing on the far end ridge in the Lhagu Glacier viewing from Lhagu village overlooking the wide and long Lhagu Glacier, but it belongs to the range of Genikutz - Gemsongu. People in Midui village call the peak KG-34 Noi. Noi looks like two heads from Lhagu village, but it is obvious that Noi looks like a single head from Midui village.

KG-18 (Gemsongu) may or may not be the fourth highest peak in Kangri Garpo competing with KG-17 and KG-37.

Hamokongga / Dojizandoi (KG-19 6,260m)

It is not funny that a mountain has two different names. KG-19 (6,260m) is such a case. We can enjoy the spectacular scenery of the Lhagu Glacier and surrounding six-thousanders at the square of Lhagu village (Fig. 12). Hamokongga stands on the right end of the scenery appealing pyramidal rock tower. From Midui village, on the opposite side, Hamokongga looks similar as of Lhagu side appearance. Hamokongga is visible from the river side hill along Road G318, 100m higher altitude of the right bank of Parlung Zangbo, near the end of Rawu Lake where Hideki Watanabe tried to take a picture of it.

The Silver Turtle party approached KG-19 from Lhagu Glacier in 2006, and stepped on the top of Snow Dome (5,900m) that is a minor peak of Hamokongga.

(3) Lhagu Glacier Range (Map-4)

16 six-thousanders stand on the divide of the Lhagu Glacier and one peak (KG-19, Hamokongga) stands on the off set ridge of the Lhagu Glacier. The Lhagu Glacier (approximately 30km long) and the Ata Glacier (approximate 27km long) are the largest ones in the south-east Tibet. The higher six-thousanders are mostly located in these two glacier areas.

The best location to watch the peaks on the main ridge of Kangri Garpo is on the road to Dema La in the southern hill of Shugden Gompa. Spectacular scene of six-thousanders is unforgettable. Snow covered characteristic appearances of peaks from KG-1 (Ruoni) to KG-18 (Gemsongu) chaining in the cobalt blue sky are overwhelmingly shining. Many peaks surrounding the Lhagu Glacier are visible from the village of Lhagu, too.

The record of an exploration in 2006 in Lhagu Glacier organized by the Silver Turtle party is published in the Japanese Alpine News Vol.8; Page 66-72 "Ski Expedition to Lhagu Glacier by Kaneshige Ikeda." Comparing to my map-4, 5 and 6, there are many unmatched points such as configuration of ridges, peak names and elevation on the map of page 68 in their article. These conflicts will not be solved because we cannot obtain formal or authorized peak identification unless Chinese authority allows us to obtain topography that is kept strictly confidential, on the presumption that those maps are reasonably reliable.

In 2006, Haruhisa Kato reached the top of Snow Dome (5,900m) close to Hamokongga (KG-19) and took many pictures of the peaks surrounding the Lhagu Glacier. There are beautiful rock towers covered with snow and ice.



Fig. 12 The most popular scenery of Kangri Garpo, view from Lhagu village



Fig. 13 Snow dome in the Lhagu Glacier is a fine lookout point of the range

The highest peak in the Lhagu Glacier

Which is the highest peak in Lhagu Glacier? The answer is probably KG-17. The old Soviet Union map has an altitude of 6,606m on KG-17. The sketch map charted by Yukio Matsumoto chose this elevation. I have put 6,536m on my sketch map that I extracted from ASTER GDEM. Comparing with several pictures taken from different points such as the road to Dema La, the left bank of the Lhagu Glacier and Snow Dome near KG-19, I could estimate KG-17 as close as 6,600m. One more question is, which is higher KG-17 or KG-18 (Gemsongu)? According to ASTER data, the difference between these two peaks is only 11 meters. This difference is within the tolerance of ASTER measurement. (Fig. 14)



Fig. 14 The head of a large Lhagu Glacier cirque on the divide of Kangri Garpo



Fig. 15 The snow covered upper Lhagu glacier provide a chance to ski partly.

Gongyada /Hiqen group

The Silver Turtle party named KG-11 (6,091m), 12 (6,422m) and 13 (6,127m) as Hiqen III, I and II respectively. Yukio Matsumoto named Gongyada on KG-12 and Zeh on KG-13 (Fig. 16). Basically, Matsumoto selected names relying upon his hearing from Tibet Monks. Silver Turtle mainly picked up names from the local people. On the west side of Gongyada group, the large ice field of the Lhagu Glacier covers the main ridge of Kangri Garpo and forms a plateau.

The main ridge looks cut off by this ice field. Two separated hanging glaciers flow down to the south-west from the ice field.

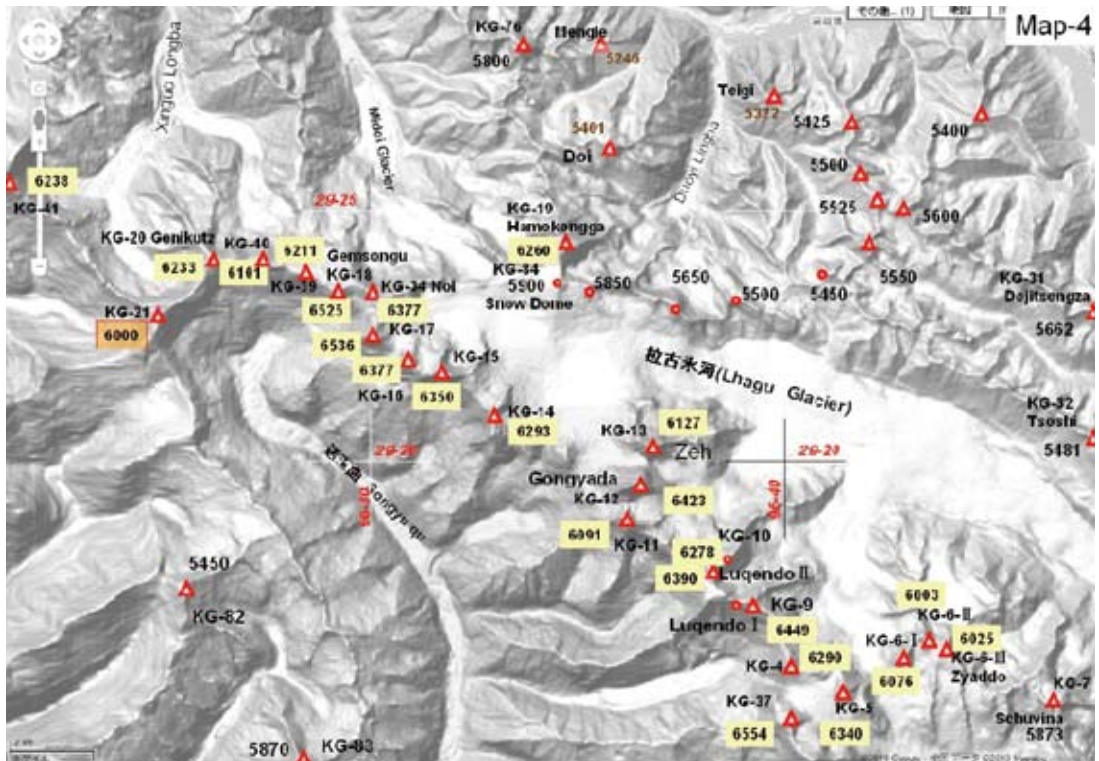


Fig. 16 KG-15 Gonggyada and Luqendo

A small pyramidal snow-covered peak appeared between Luqendo II-1 (KG-10 -1 6,390m) and Hiqen III (KG-11 6,091m). This peak may or may not be a six-thousander.

Luqendo Group

The Luqendo group has a complex arrangement of five peaks and ridges. The main peak Luqendo I (6,449m) has a needle rock pinnacle on the north-west ridge. It is a typical feature of this mountain.

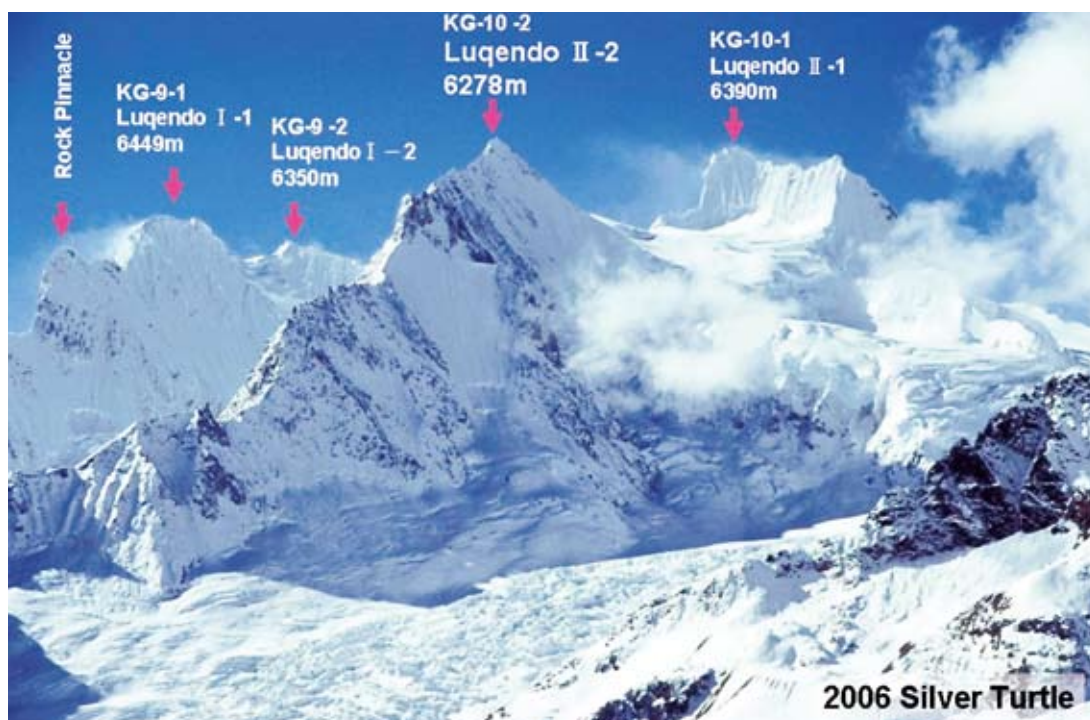


Fig. 17 Luqendo group has 5 peaks. KG-9 I-III is invisible

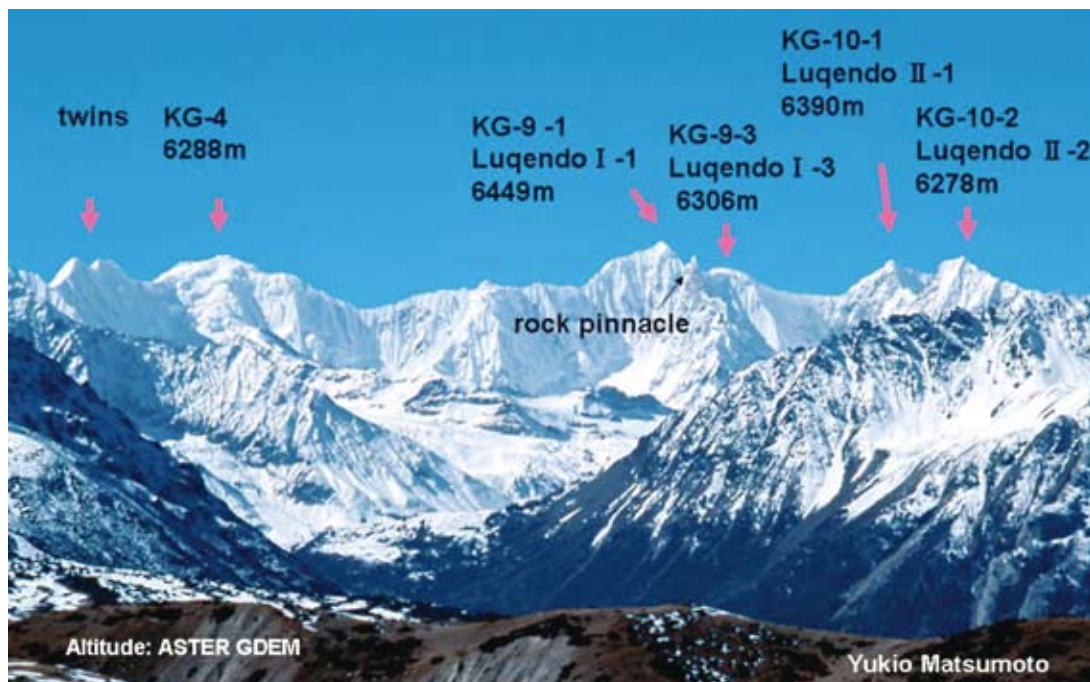


Fig. 18 Kangri Garpo means “white mountains.” Heavy snow grows large glaciers and sharply shaped peaks.

When I had started to pay attention on this group, I had recognized three peaks. After obtaining some pictures, I found a minor peak of KG-9-3. In the picture Fig. 17, I finally found KG-9-2 which was hidden behind the main peak of KG-9-1. The peaks and ridges of this group have been shaved by heavy snow fall and formed thin saw-toothed ridges. The Silver Turtle party in 2006 revealed the detailed feature.

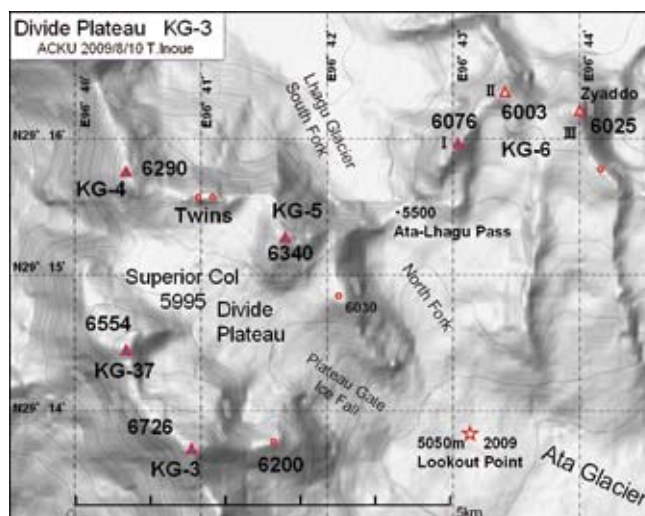
Ridge configuration between the Lhagu Glacier and the Ata Glacier

KG-4 (6,290m) is the node peak of the main ridge of Kangri Garpo and the branch ridge to KG-5, 6 and 7 that is the divide between the Lhagu Glacier and the Ata Glacier. The branch ridge will be referred to as the Zyaddo ridge in this article.

The Zyaddo ridge including peaks from KG-4 to KG-7 (Schuvina) was especially confusing because of complex topography. During our review process of peaks and glaciers surrounding the Ata Glacier for the purpose of selecting a peak to climb, I assumed that the analysis of the Zyaddo ridge configuration done by Yukio Matsumoto was incorrect. He charted in his book that the Zyaddo ridge was branched off from the top of KG-4 and directly joined Zyaddo. My opinion was that the Zyaddo ridge starts from KG-4 and continues to Twins and KG-5 (6,340m). Then it lowers to Ata-Lhagu pass (5,500m) and joined KG-6-I.

The argument about the Zyaddo ridge configuration around the watershed of the Ata Glacier heated among members of the Hengduan Mountains Club, Japan chaired by Tom Nakamura. I think the confusion was induced by two sources, one was the picture taken by Yukio Matsumoto's team from the road to Dema La (Fig. 20) and the other was the Soviet map (Map-9).

A picture of the north-east face of the Zyaddo ridge (Fig. 20) gave us the first confusion because of overlapping peaks; KG-37, KG-4, KG-6-I, KG-6-II respectively. Secondly, the Soviet map has no KG-5 and has KG-6 with only one peak. In reality, however, KG-6 has three peaks. Identification of peaks and ridges around the divide of the Ata Glacier and the Lhagu Glacier was one of the most interesting discussions in the research party. This controversy was raised at the annual meeting of Hengduan Mountains Club in 2007. Finally, the ACKU Lopchin Expedition 2009 entered the Ata Glacier and clearly solved this issue. This episode suggested us the Kangri Garpo Mountains is still an unknown area on the globe. The conclusion was charted on Map-8. The Soviet map is shown in Map-9 in comparison to Map-8.



Map-8 Divide Plateau



Map-9 Divide Plateau (Soviet Map)



Fig. 19 The Ata-Lhagu Pass (5,500m) was a mysterious point before Kobe University party visited the upper Ata Glacier. A picture taken from the Lhagu Glacier provided by Mr. Haruhisa Kato confirmed its existence

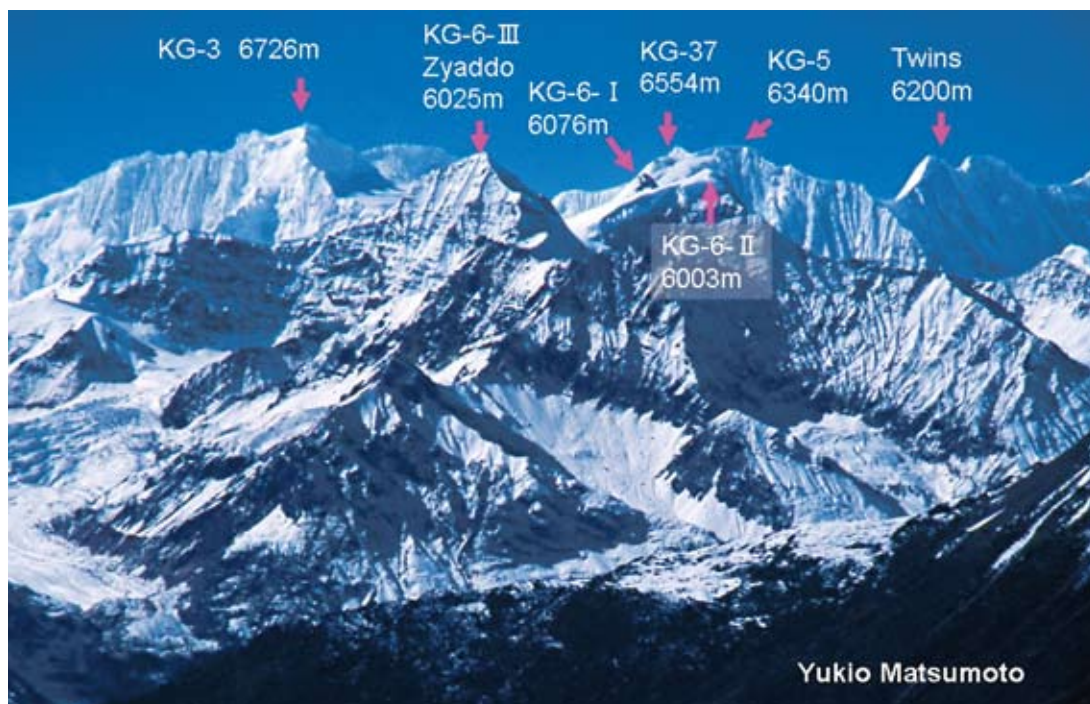


Fig. 20 North-East face of the Kangri Garpo Ridge .Many peaks look overlapped.

Zyaddo and KG-6

In Yukio Matsumoto's map, the position of Zyaddo was put on the 5,903m altitude printed position of the old Soviet map. According to my analysis, KG-6 has three peaks, I (6,076m), II (6,003m) and III (6,025m). The position of KG-6 III is matching to Zyaddo in the Matsumoto map. KG-6 II (6,003m) locates the same position as of 5,903m in the old Soviet map. Those three peaks are six-thousanders according to the data from ASTER GDEM. ACKU 2007 reconnaissance party confirmed KG-6 as three peaks.

The north-east flank of KG-6 is a steep rock wall and the Ata Glacier side is covered with gentle slopes of glacier fingers. Ata-Lhagu Glacier Pass (5,500m) is located between KG-5 and KG-6-I.

In 2000, the Silver Turtle party had a plan to explore the Ata Glacier and the Lhagu Glacier via Ata-Lhagu Pass, but they could not execute it. No one has passed through the Ata-Lhagu Pass to date. Takeru Yamada and I stepped on the Ata Glacier toward the pass and reached 5,050m just at the confluence of a tributary glacier to the pass. It seems to be able to trek from Ata Glacier to Lhagu Glacier.

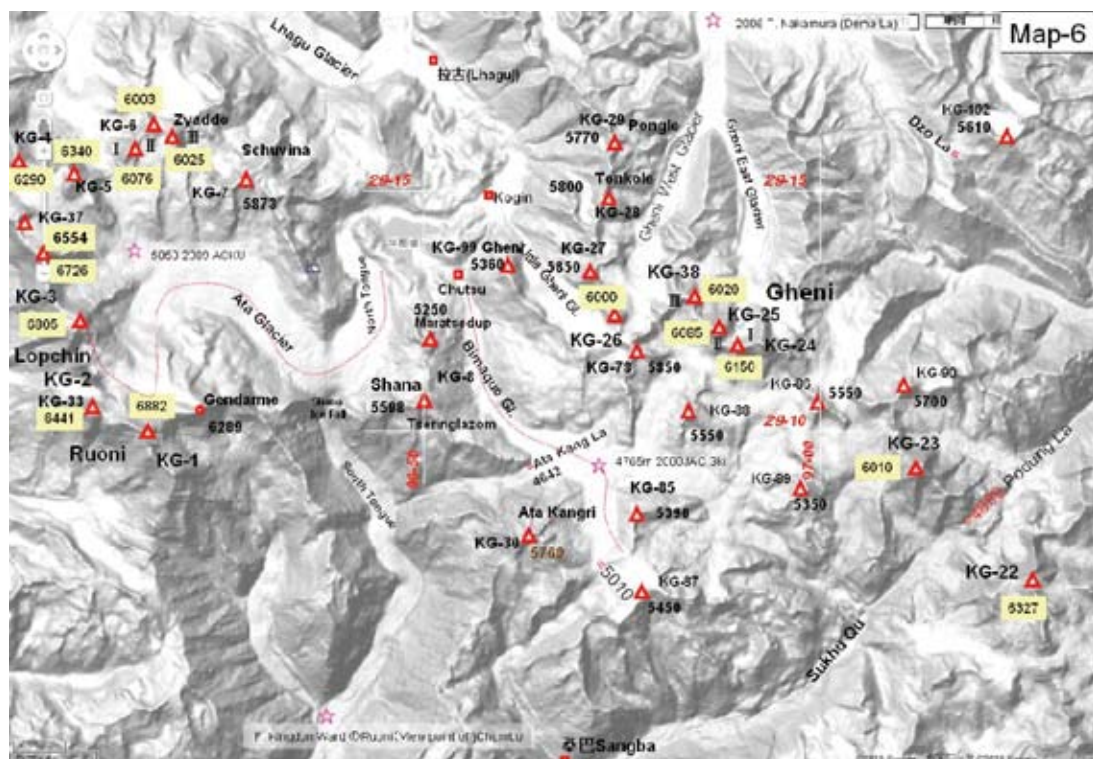
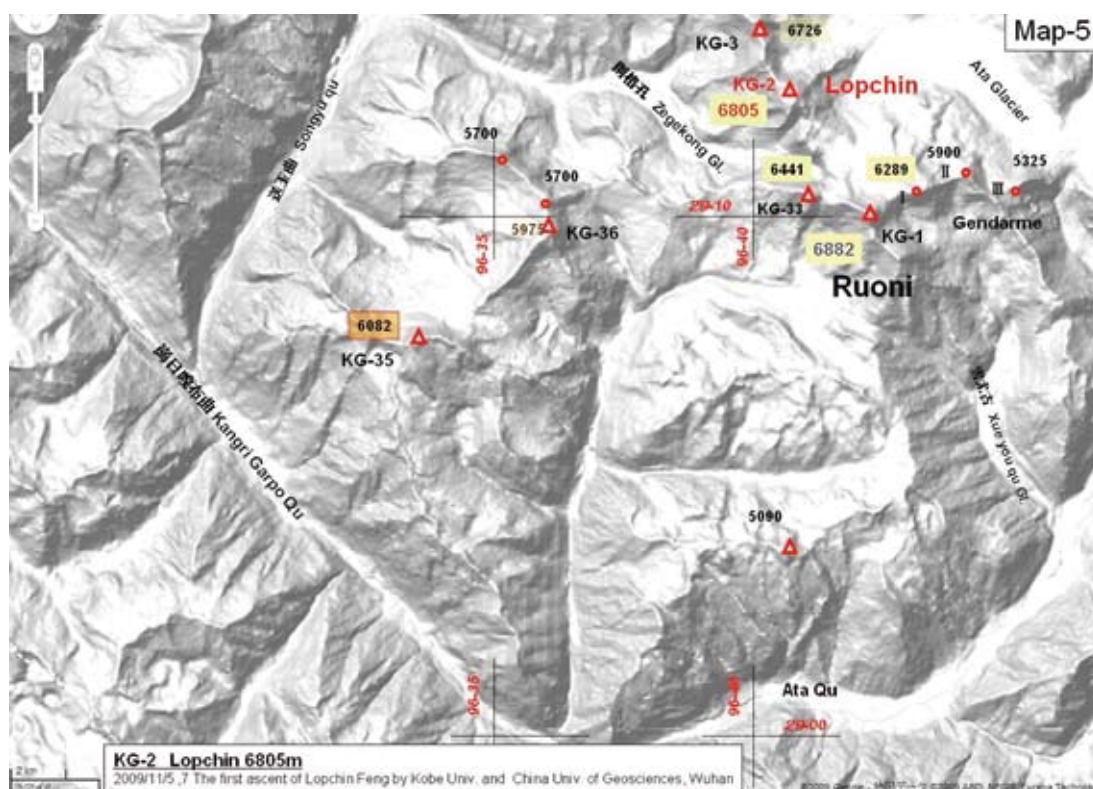
(4) Ata Glacier Range (Map-5 and 6)

The words "unknown", "hidden" and "unexplored" are most valuable keywords for mountaineers those who are orienting to be pioneers. ACKU has been keeping this pioneer spirit to choose peaks to climb. Kangri Garpo is the best world to achieve our goal in the 21st century.

Since the reconnaissance party from ACKU in 2002 had no certain picture of Ruoni, they had struggled to find the possible route to the summit. In 2003, they tried to climb Ruoni from the Ata Glacier. They failed because of bad weather and dangerous condition of the ridge to the summit, but discovered many unknown peaks. In addition to these trials, the 2007 and 2009 expeditions had newly discovered KG-2 (Lopchin Feng 6,805m, the second highest peak of Kangri Garpo climbed in



Fig. 21 The North Fork of the Ata Glacier gently comes up to Ata-Lhagu Pass. View from Camp-3 (5,910m, 2009 ACKU Expedition)



2009), KG-3 (6,726m), KG-37 (6,554m), KG-33 (6,441m), KG-6 I (6,076m), KG-6 II (6,003m), KG-26 (6,000m) and KG-38 (6,020m).

KG-35, a possible six-thousander

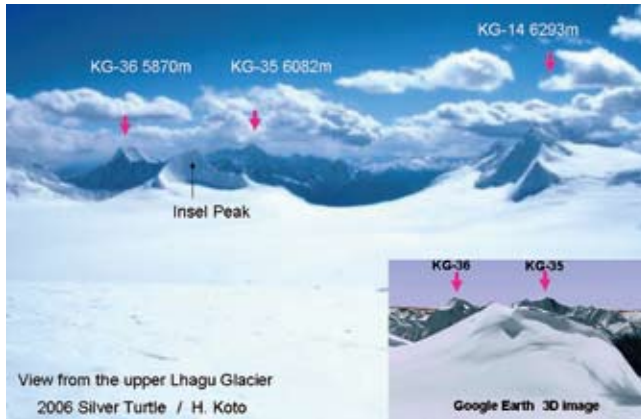


Fig. 22 Unknown south-west slope of Kangri Garpo

KG-35 (6,082m) stands on the end of the west ridge of KG-1 (Ruoni Feng). A picture taken from the top of Snow Dome captured KG-35 and KG36, but it is too small and unclear to grasp the whole figure of those peaks.

The current maps have 6,082m on KG-35 but I have 5,991m altitude from ASTER. I assume KG-35 is one of six-thousander, but the elevation may be around 6,000m.

In 1935, Ronald Kaulback had travelled through Kangri Garpo Qu and passed over Kangri Garpo La. A steep slope of 3,900m

elevation gap within 6km horizontal distance goes up to the top of KG-35 (6,082m) from the bottom of Kangri Garpo Qu gorge (2,200m) near Buzong Cun. I suspect he could not see any six-thousanders on the main ridge of Kangri Garpo. The south-west face of Kangri Garpo is mysterious for us and expected to be unveiled.

Three Ata Sisters; KG-1 (Ruoni) , KG-2 (Lopchin) and KG-3

Even though the expedition members of ACKU in 2003 saw KG-2 (Lopchin) standing next to KG-1 (Ruoni), no one paid attention to KG-2. We could identify KG-2 in the picture taken from the road to Dema La. She looks the same height as Ruoni. In 2007, Takeru Yamada who was the leader of third visit by ACKU confirmed KG-2 as the best target for the first ascent of the whole Kangri Garpo.

The old Soviet map printed 6,805m on KG-1 (Ruoni), 6703m on KG-2 (Lopchin) and 6,443m on KG-37 but no altitude number on KG-3. The latest Chinese map has 6,882m on KG-1 (Bairiga) and no information about KG-2, KG-3 and KG-37.



Fig. 23 Ata Glacier great cirque; We refer to Ruoni, Lopchin and KG-3 as Three Ata Sisters.

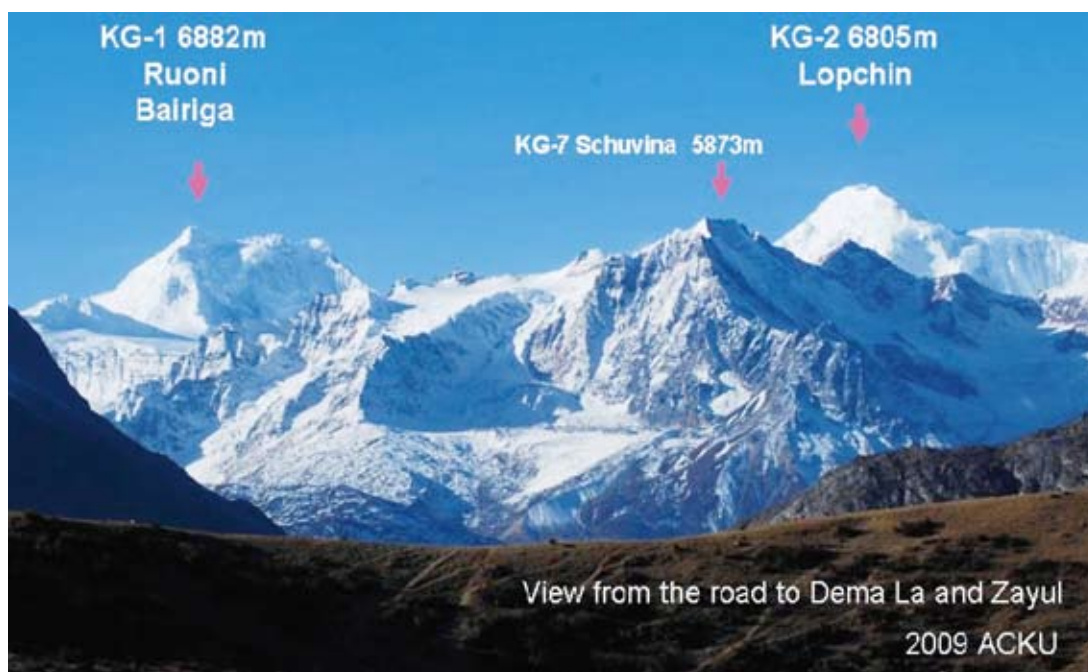


Fig. 24 The highest peak Ruoni in Kangri Garpo and KG-2 (Lopchin)

To our astonishment, Koichiro Kondo watched his GPS indicate 6,805m on the summit of Lopchin Feng when he reached the top. It was about 100 meters higher than that of our expectation. This fact led us to review existing maps and reports again. We cannot receive any Chinese topography map which may have detailed information about peaks today. We have accessed Google Earth, NASA World Wind and ASTER GDEM. Since I do not know which geoid model the old Soviet map had, the accuracy may not be good enough. About 100 meter difference is too large to use it for climbing that I doubt current altitudes of peaks in Kangri Garpo. I made a comparison of the altitudes of peaks surrounding the Ata Glacier (List 2). Approximately 80 to 110m differences are shown on the list. I hope we will be able to access the official Chinese topography based on the latest survey technology.

NO	KG-#	Peak Name	This report	On site	Soviet	Chinese	ASTER
1	KG-1	Ruoni	6882	6859	6805	6882	6841
2	KG-2	Lopchin	6805*	6814	6703		6791
3	KG-3		6726	6740	-		6698
4	KG-5		6340	6373	-		5340
5	KG-6 III	Zyaddo	6025	6018	5903**		5999
6	KG-7	Schuvina	5873	5890	5699		5873
7	KG-8	Shana	5614	5614	5593		5571

Note: * GPS data on the summit ** data position at KG-6 II

List-2 The altitudes of peaks in comparison with different sources

As a conclusion based on this comparison, the order of altitude between KG-1, KG-2 and KG-3 is KG-1 > KG-2 > KG-3.

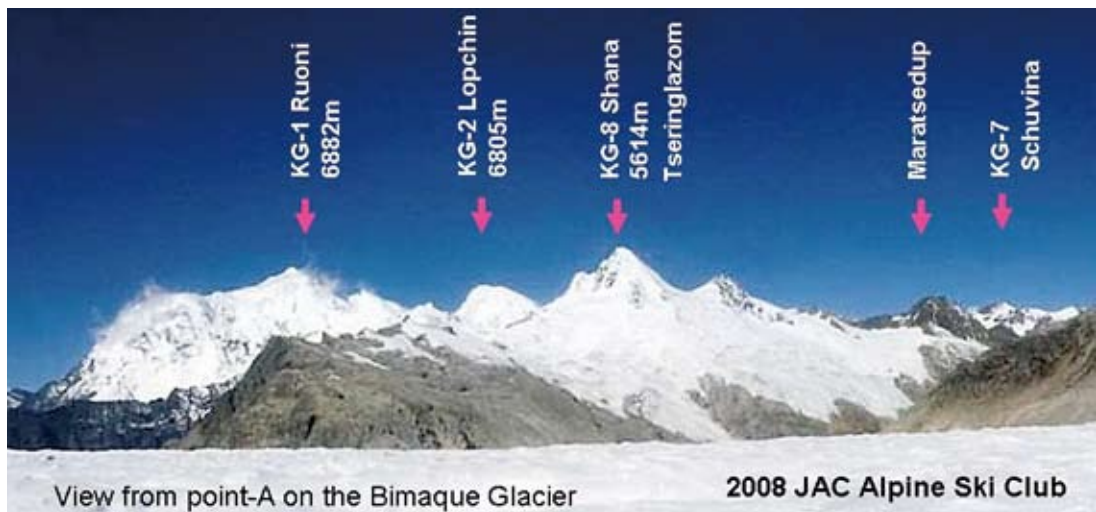


Fig. 25 View from Bimaque Glacier near Ata Kang La provides another appearance of Ruoni and Lopchin

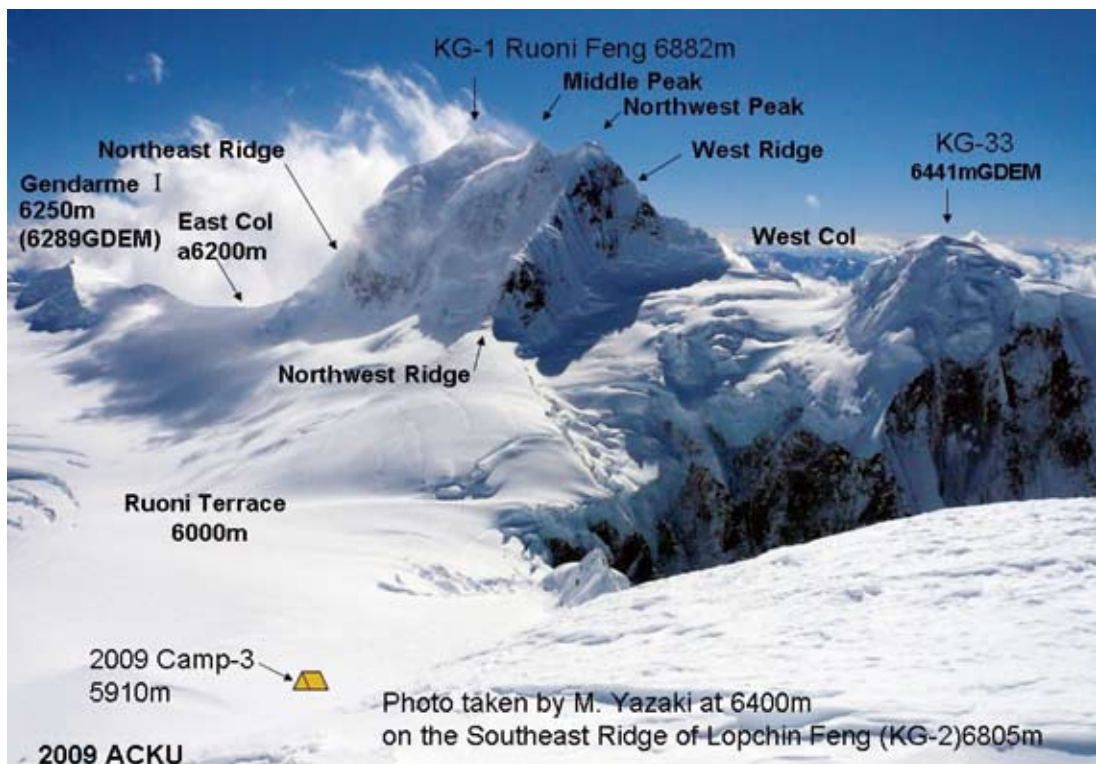


Fig. 26 Ruoni the highest peak in Kangri Garpo

Osamu Matsuo took a picture of KG-1 and KG-2 from Bimaque Glacier; 4,765m point “A” in the sketch map of this article (Map-6). It captured KG-1 and KG-2 beyond the ridge of KG-8 (Tseringlazom of Shana group).

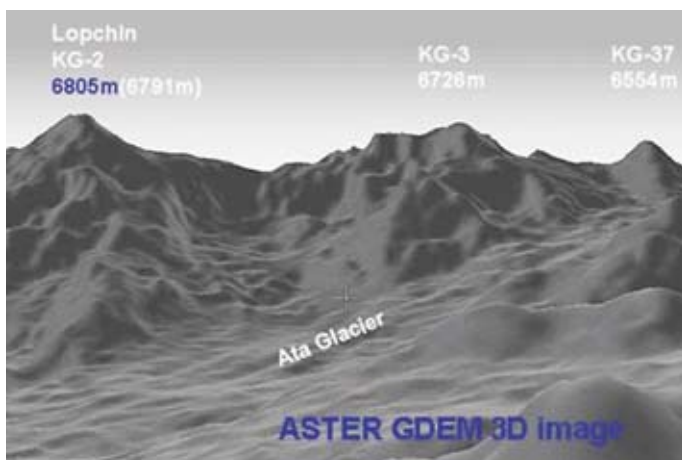


Fig. 27 ASTER GDEM gives us good evidence of peak identification.

KG-1 has three names (Choembo, Ruoni, Bairiga) and different heights, 6,805m (old Soviet map), 6,882m (Chinese map), 6,610m ("Glacier of Tibet," Chinese Academy of Science) and others. The local people call her "Ruoni," but we suspect the 2003 ACKU expedition members called her "Ruoni," and influenced the locals. A recent Chinese map has the name "Bairiga."

Can anyone climb Ruoni?

ACKU 2003 expedition had reached 5,900m on Ruoni Terrace just in front of the steep wall. They could not find a safe and passable route to the summit of Ruoni despite two reconnaissance and one attempt over the past several years. There are three considerable routes to the top. They were too overwhelming by hanging seracs and steep saw-tooth rocks and snow ridges.



Fig. 28 KG-2 (Lopchin, 6,805m)

We heard news from a student of Tibet Mountaineering School that a Swiss party accessed three different routes to Ruoni in 2005, but we did not get any information about this attempt from the Chinese Tibet Mountaineering Association. They said they provided a permit only to ACKU.

KG-33 (6,441m) was a hidden six-thousander before 2009 ACKU expedition had reached the Ruoni Terrace. They discovered that KG-33 stands on the west ridge of KG-1 (Ruoni).

KG-3 was a missing peak in the Ata Glacier before ACKU identified it in 2003. Since KG-3, KG-37 and KG-5 are obstructed and overlapped by the Zyaddo ridge when viewing them from the road to Dema La because it was difficult to distinguish them individually. Only P-6,443m (KG-37) is printed on the Soviet map. ASTER GDEM data and its three-dimensional image helped me identify and distinguish those peaks.

Since the peak KG-2 (6,805m) had no name, we expected to understand the local name. We asked Lhagu village people and received several answers. One person said, “White bird’s peak” but it was not confirmed. After consultation with the village leader of nearby Lhagu, we agreed to name KG-2 “Lopchin Feng” (Chinese “Lou bu qin”) which means male hawk, brave, intelligence and university.

KG-4, KG-5 and KG-37

The main ridge of Kangri Garpo runs from KG-4 (6,290m) to KG-5 (6,340m) via Twins (This is not an official naming, but just a nickname for identification.). The upper plateau cut the main ridge off near KG-5. The main ridge starts again from KG-37 (6,554mm) and continues to KG-3, KG-2 and KG-1. KG-4 stands on the edge of the upper plateau and is visible from Ruoni Terrace.

KG-5 is visible from the point on the road to Dema La, but many observers could not distinguish it because KG-5, KG-37 (P6,443m on the old Soviet map), KG-6-I and II have overlapped on a line. A small top part of KG-37 is visible over the summit ridge of KG-5 (Refer to Fig. 20 again).



Fig. 29 Divide plateau of the Ata Glacier



Fig. 30 KG-5 was discovered as one of six-thousanders.

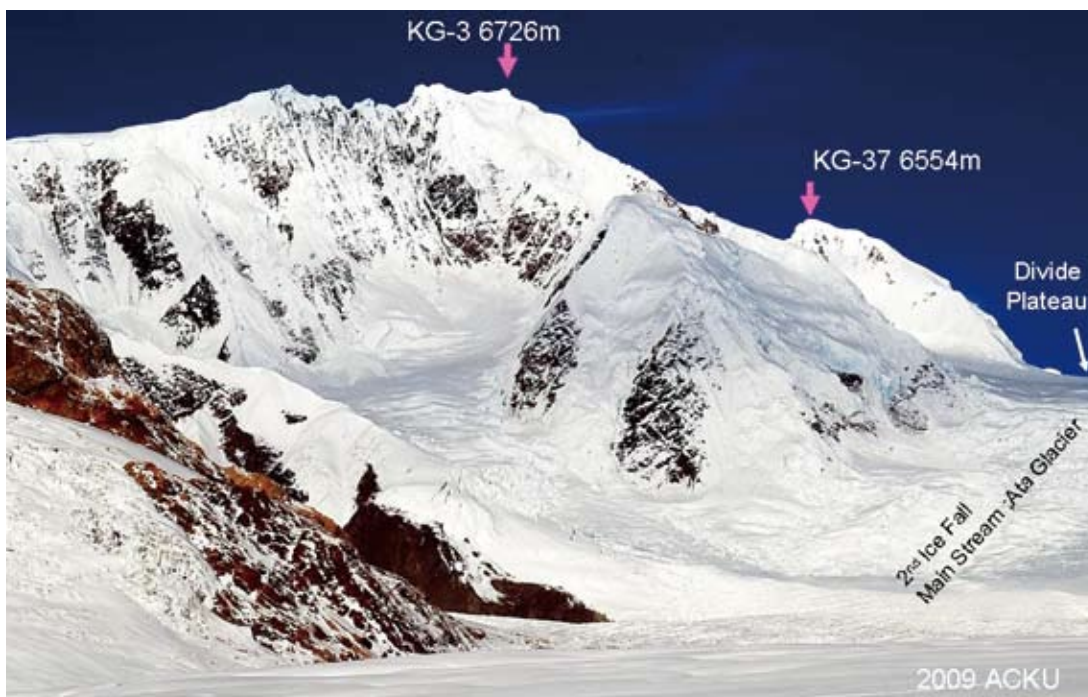


Fig. 31 KG-37 was identified in the old Soviet Union map as 6,443m, but is estimated as 6,554m.

(5) Gheni Feng Range (Map-6 and 7)

KG-22, the highest peak in the south-east end range, and hidden KG-23

The old Soviet map has 6,327m peak (KG-22). Many researchers of Kangri Garpo tried to unveil this peak. In 1911, F. M. Bailey travelled east side of Kangri Garpo and passed Dzo La. According to my analysis by using a picture taken by Tom Nakamura who aimed southern view from the road to Dema

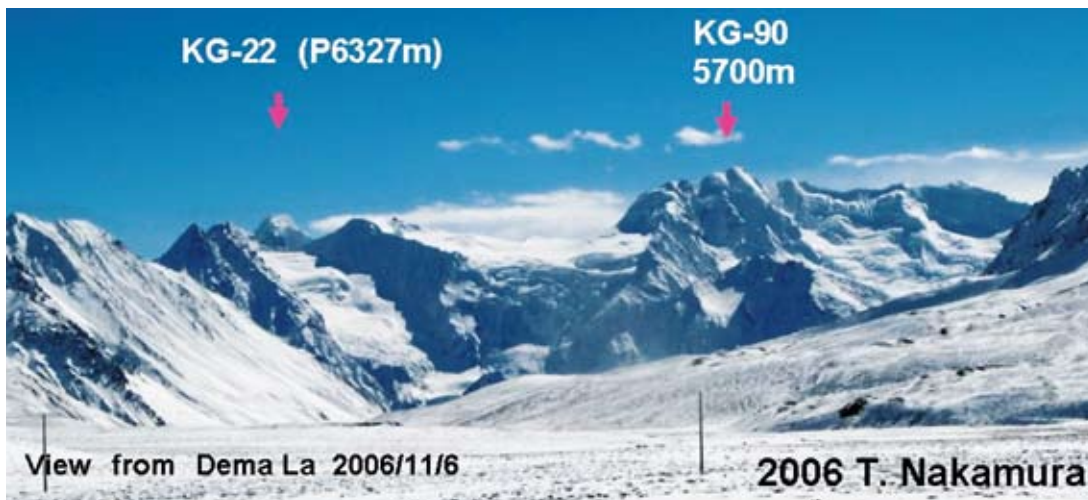


Fig. 32 KG-22 can be seen from Dema La area (North face of KG-22)

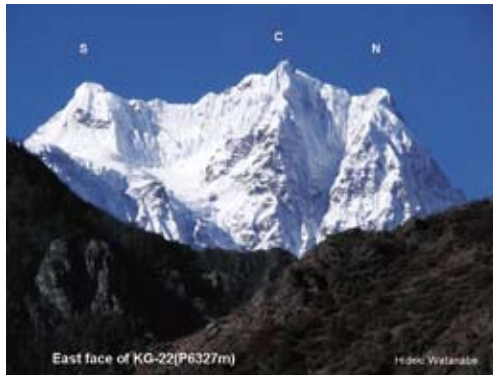


Fig. 33 East face of KG-22 (6,327m) View from the road to Zayul Hideki Watanabe

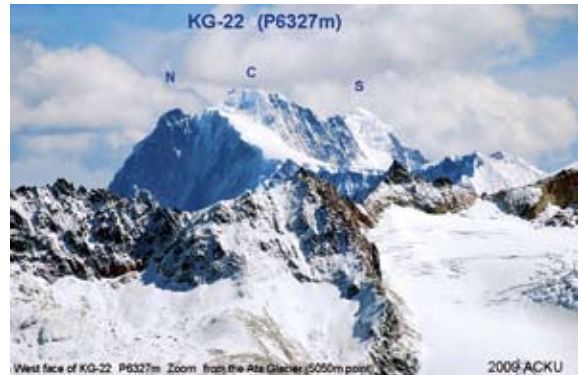


Fig. 34 West face of KG-22 View from 5,050m point in the Ata Glacier

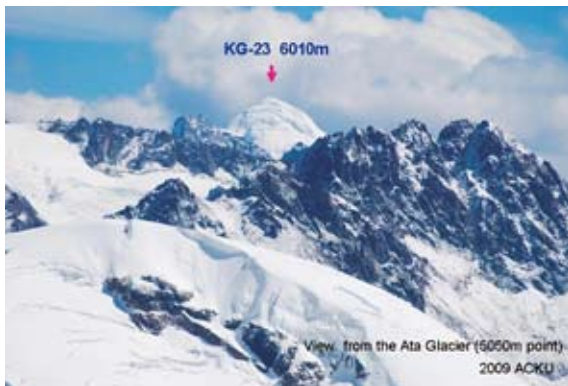


Fig. 35 KG-23 (6,010m) view from 5,050m point in the Ata Glacier

La, KG-22 is captured on the left side of it (Fig. 32). It means F. M. Bailey might see KG-22 if the weather permitted. Dema La area is a good place to observe Gheni range.

Wide open view of KG-24 (Gheni I 6,150m), KG-25 (Gheni II, 6,085m) and KG-26 (6,020m) can be enjoyed from Dema La area. Only one opportunity made by 2009 Expedition allowed us to get the south-west slope view of the range (Fig. 36).

The black rocky head of KG-22 of the north peak is clearly identified in three directional pictures (north, west and east; Fig. 32, 33 and 34). KG-23 (6,010m) is a conical snow covered peak which I saw from the Ata Glacier in 2009. Another remote picture of KG-23 was taken from 4,765m point in the Bimaque Glacier (Point "A" in Map-7) in 2008 by Osamu Matsuo. It is too small to find good figure from this picture.

KG-23 is not visible from Dema La area.

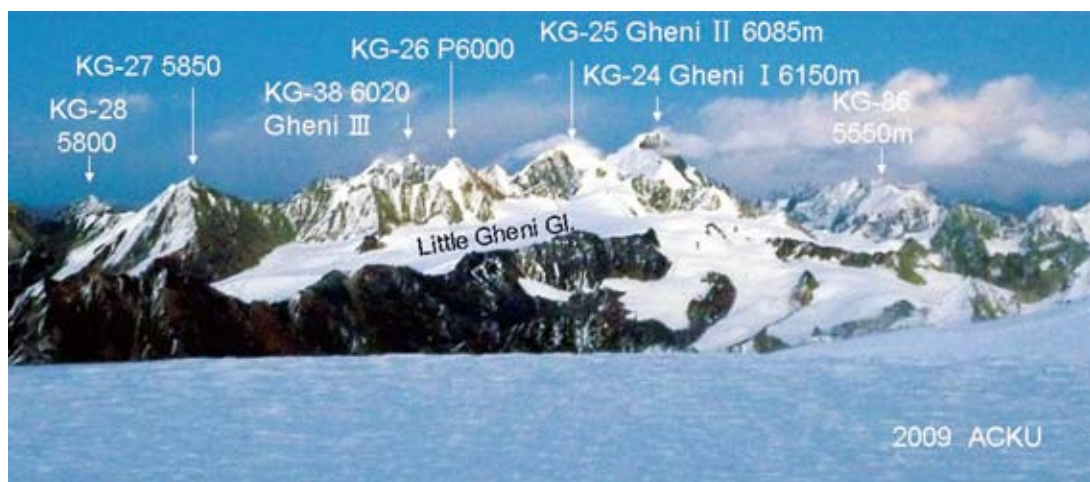
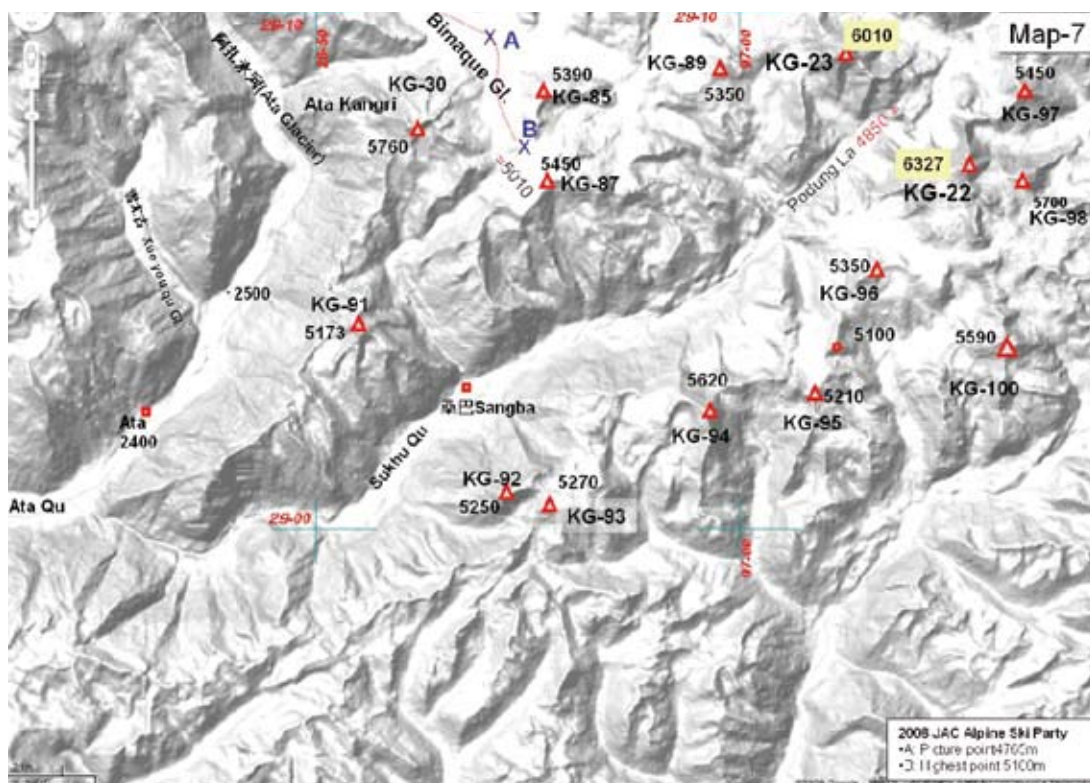


Fig. 36 KG-38(Gheni III, 6,020m) was newly found.

Discovery of KG-38 (Gheni-III) and KG-26

Currently KG-24 (6,150m) and KG-25 (6,085m) were recognized as Gheni I and Gheni II. A picture taken by ACKU in 2009 from Camp-3 (5,910m) on the Ruoni Terrace revealed the existence of twin peaks of KG-38 (6,020m) as Gheni III (Fig. 36). Subsequently to this discovery, reviewing a picture taken by Hideki Watanabe from Dema La area, KG-38 is clearly identified (Fig. 37).

KG-26 (6,000m) was a hidden peak before a picture had been taken from the Ata Glacier. KG-26 stands on the deep valley of the Little Gheni Glacier near the watershed of the Gheni Glacier (I did not find a name for this glacier. This is a temporary name.) where a snow pass reaches the origin of the West Gheni Glacier. KG-78 (5,850m) rises just on the pass (Fig. 38 and 39).

Discovery of peaks is the most exciting pleasure for those who are involved in mountaineering. Since there was no map and no satellite sensing technology, a plant hunter F. Kingdon Ward enjoyed his travel to the Kangri Garpo Mountains with many discoveries in early 20th century. Today, we are feasible to exploit state-of-the-art technologies to support discovery of mountains such as ASTER, Computerized-Transit, digital camera with GPS and others. Even though the Chinese authority will never allow us to access precise map and data, we can integrate information that climbers and travelers provide and create comprehensive outline of mountains.

I think my study about Kangri Garpo has just started. The range still remains unknown and unexplored. I hope my study will be supported by people who are going to visit this range from now on. It is a miracle that we still have this large field with no human steps in the 21st century.

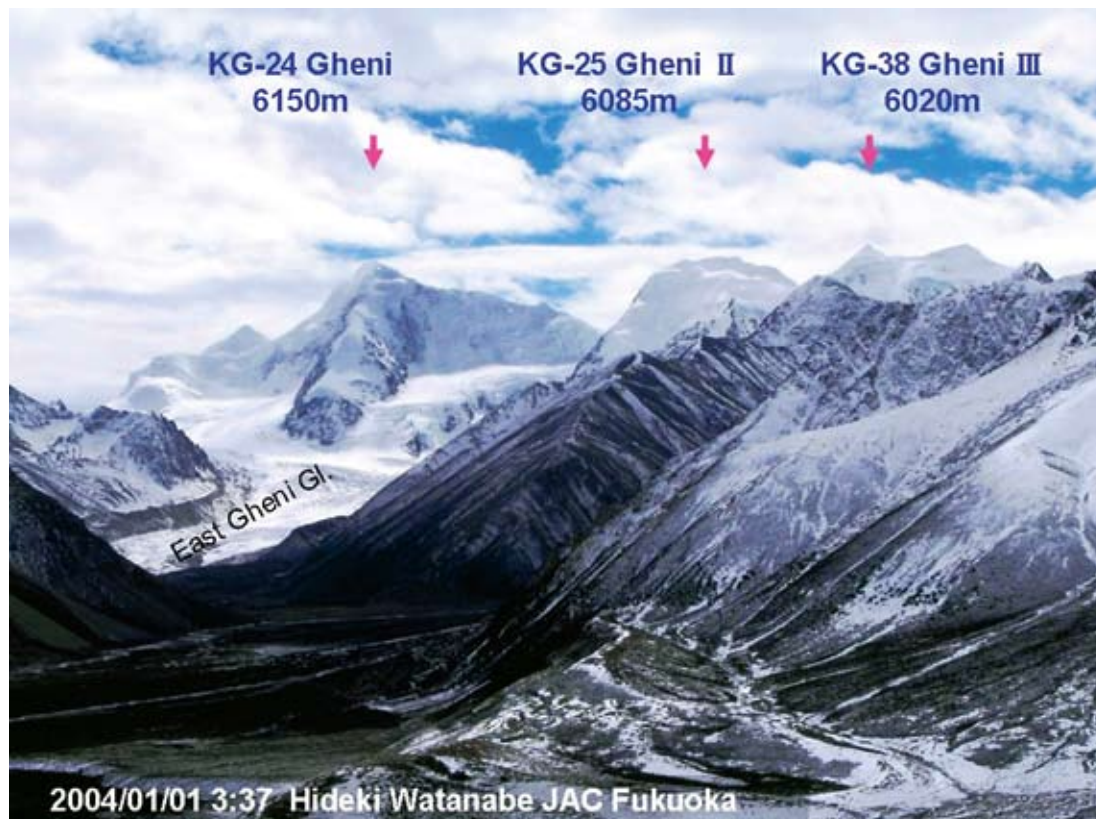


Fig. 37 Three peaks of Gheni Feng group

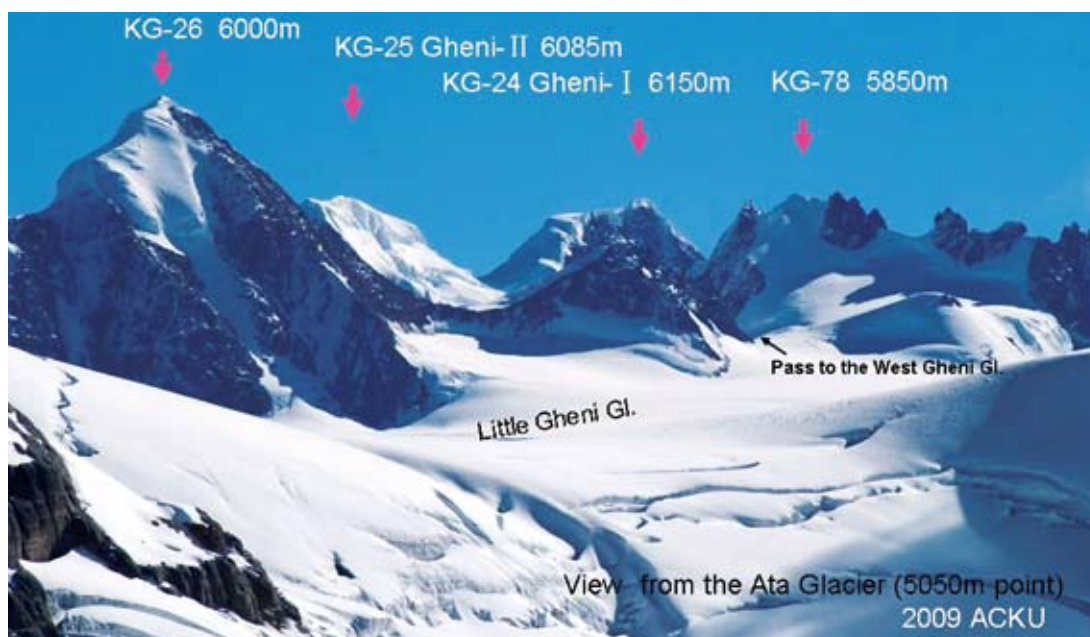
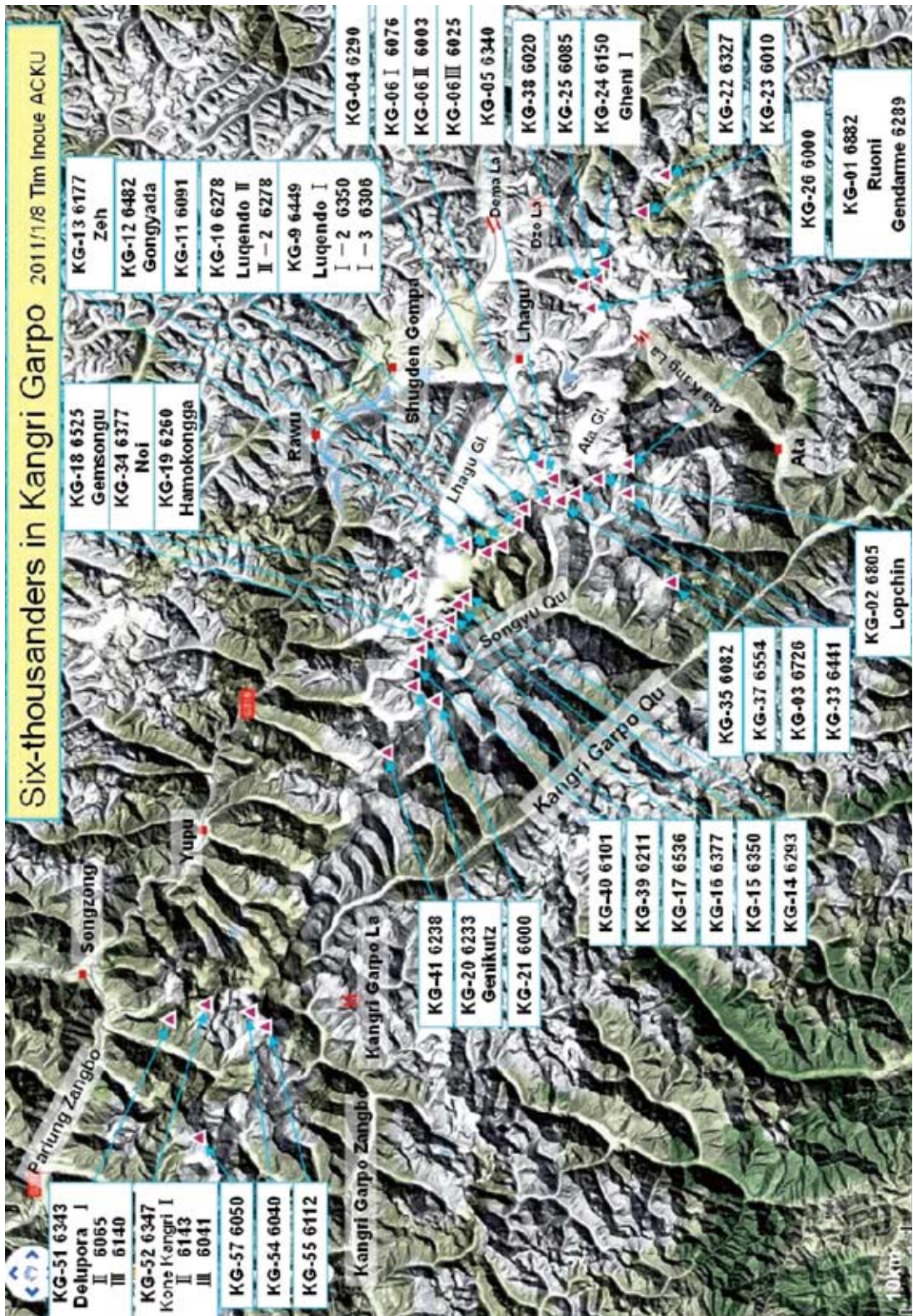


Fig. 38 KG-26 (6,000m) was found from 5,050m point in the Ata Glacier.



Fig. 39 West Gheni Glacier view from Dema La

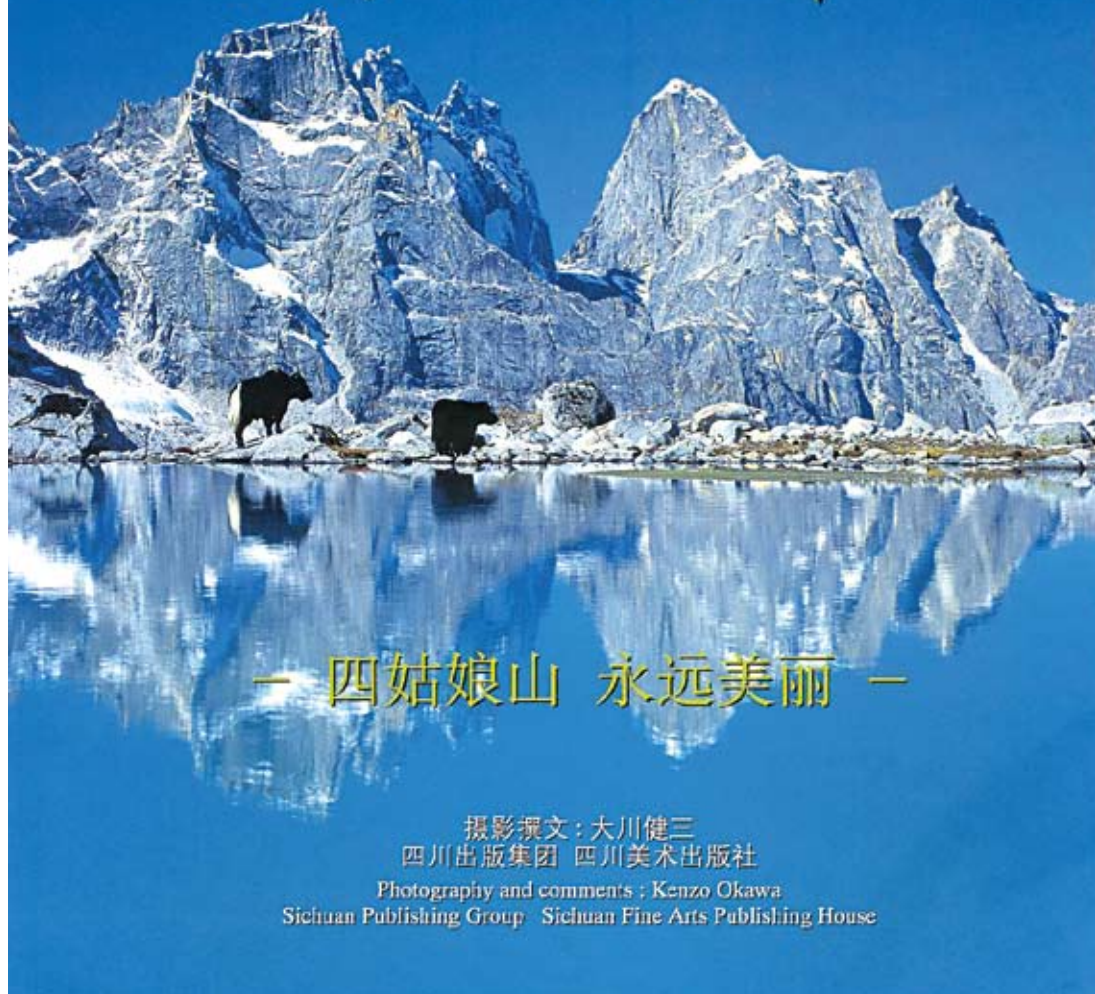


Map-10 Hidden 47 Six-thousanders in the Kangri Garpo mountains

The Goddess on the Mountains in Southwestern China

Four Girls Mountains, Being beautiful forever

蜀山女神



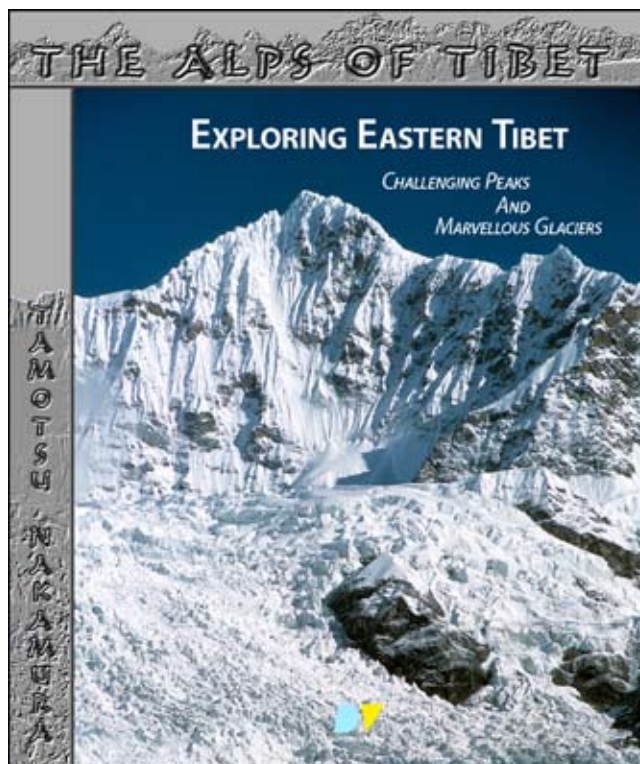
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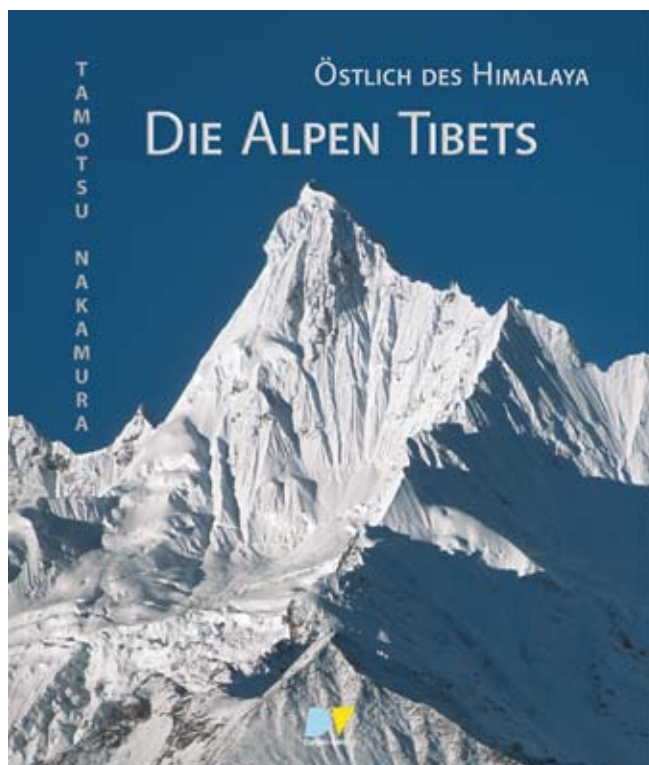
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