

Exp Ac 00/7A

BRITISH

WESTERN PATAGONIA

EXPEDITION

2000

TO THE

CORDILLERA SARMIENTO

IN

CHILEAN PATAGONIA.

SPONSORS

Saga Holidays

Mount Everest Foundation

Welsh Sports Council

Key Words for Filing:

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Angels Wings

La Dama Blanca

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Chris, Nick & Niall on the Angel's Wings Plateau.

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ANGELS WINGS

**Lofty and aloof,
pure and undefiled
for ages past.**

**Stately seracs
guard and protect
your icy virtue.**

**Serenely spread
your Angel's wings
around us.**

**Niall Washington-Jones.
6th November 2000. 1430.
In another blizzard.
Cordillera Sarmiento.**

AREA

At 52 degrees south and about 50 miles west of Puerto Natales in Chilean Patagonia lies the Cordillera Sarmiento de Gamboa*. This mountain range occupies a 40 mile long narrow peninsular that runs from one of the southern tips of the Southern Patagonian icecap in the north to Cabo Earnest in the South. It has a vast array of alpine scale peaks rising out of the Fjord of the Mountains (Estero de los montanas) on the East and Taraba Sound (Seno Taraba) on the West. The east side of the Fjord of the Mountains is made up of the magnificent Peninsula Roca, a rock climbers paradise with sheltered anchorages and a portage route for canoeists to Estero Borcosky.

The highest peak in the range is La Dama Blanca situated towards the northern end of the peninsular and surveyed at 1925m. North of La Dama Blanca there is an ice cap reached from the east via No Problem Ridge and Gremlins Cap, Taraba One and Two, South Face, Jaco, Elephant Ears and Pico Anwa have all been climbed from here. Angels Wings (aprox 1850m) is located immediately south of the La Dama Blanca area separated from it by the Inaccessible Valley. Further South still lies the Fickle Finger of Fate.

Patagonia is known amongst mountaineers for its prolonged bad weather. The Cordillera Sarmiento appears to have its own microclimate and it is BAD even by normal Patagonian standards. It has almost permanent cloud cover. One nearby station reports over 8 meters of rain per year and the Cordillera certainly exceeds this. On the rare clear days the wind often maintains its relentless battering.

* Not to be confused with Monte Sarmiento at the Western end of the Cordillera Darwin on Tierra del Fuego and sometimes visible from Punta Arenas.

MOUNTAINEERING HISTORY

Mountaineering exploration of the Cordillera Sarmiento owes a lot to the Colorado based American climber Jack Miller. In 1976 he and Daniel Asay made their first foray into the Fjord of the Mountains and climbed Mount Thunder and Lightning and one of the Three Furies (Las Tres Furias) on Peninsular Roca (1 & 2). In 1988 Yvon Chouinard and Jim Donini made a second ascent of these impressive towers and Carsten Birckhahn and Andrew McAuley visited in 1998 to climb La Torre Este. In the summer of 2000 Inaki san Vicente also climbed here on his return from La Dama Blanca with Rafael Quesada (10).

The 1976 trip obviously whetted Jack Miller's appetite and in 1990 a rare clear day dawned over the main Cordillera. He hired a plane piloted by Pedro Gomez and with Rob Hart flew the length of the range taking photographs. At that time there were no maps available of the area but he now had the information he needed to get sponsorship from the National Geographic magazine for an expedition in the southern winter of 1992. He was joined by Rob Hart, Tyler Van Arsdell, Philip Lloyd, Peter Garber and Gordon Wiltsie. They spent two months in the field in appalling weather and managed seven first ascents also exploring the eastern and western coastlines of the range. Initially they worked from a base camp on the ridge north of No Problem Ridge and later from one in Taraba Sound from where they climbed the Fickle Finger of Fate (3,4,5,&6). Their route up No Problem Ridge appeared to give access to the north ridge of La Dama Blanca. They had a small inflatable boat with them and some members struggled through the dense lower forest with skis to facilitate faster movement on the upper ice cap. Damp snow caves were used high on the mountains and platforms used at base camp to keep the tents off the boggy ground. Peaks climbed from No Problem Ridge included South Face, Jaco, Gremlin's Cap, Elephant's Ears and Taraba One & Two.

In February 1990 I was passing through Punta Arenas after a trip to the Cordillera Darwin and was fortunate to meet Jack Miller who had spent the previous thirty years exploring the mountains of southern Chile. He mentioned the unexplored Cordillera Sarmiento and we have kept in touch ever since.

A few days after Christmas 1994 I left the UK with two other Devon based climbers, Keith Atkinson and Robin Earle (7). We were armed with a photocopy of Jack's sketch map from the National Geographic and a large dose of optimism. We "chartered" a fishing boat from Puerto Natales and spent 30 days in the range. Base Camp at the bottom of No Problem Ridge was boggy, had little shelter and cramped space for two tents. Most of our time was spent at a much more comfortable site next to a lake at about 220m. From here we made several forays up the ridge with a snow hole at its top and later a small-tented camp in the upper snow bowl. We had two weather windows one of eighteen hours that enabled us to traverse to the eastern side of the icecap and view the northwestern side of La Dama Blanca. It was protected by a deep valley threatened by avalanche from the steep south face of the Gremlins Cap ridge and did not appear to offer a feasible approach from this side.

The next break in the weather lasted about fifteen hours and enabled us to climb Pico Anwa on the north side of the upper ice cap with a storm lashed descent.

My long-term weather memory must be impaired since two years later another British team evolved and early in 1998 I was back in the range with Nick Banks, Chris Smith and Niall Washington-Jones (8). Photos taken from the top of No Problem Ridge in 1995 seemed to indicate a route up La Dama Blanca from the east direct up the next ridge south of our previous Base Camp. On this trip we were kindly taken into the area by the Chilean Coastguard and again had a boggy but wind sheltered camp just above the beach. We found a complex way through the dense forest and made an exposed upper camp just below the glacier snout at 808m. We endured three weeks in two tents at this camp having to repitch once during a particularly vicious two day hammering by wind, rain and snow. Our longest weather break lasted five hours although we remained constantly ready to leave camp in any weather break. On some occasions we returned within 30 minutes as our optimism during a lull tempted us onto the glacier, only to see the wind swing again and rain or snow return. We gradually pushed the route over a col and into an upper snow bowl below the final summit cliffs. We were about 300m from the top and knew that we had the key to the mountain. To our surprise three Spanish visitors paid an afternoon visit to our tent during a slight let up in the weather. Ixema Camara, Daniel Santamaria, Inaki san Vicente and Amaia Olea were experienced mountaineers undertaking an audacious kayak trip through the area exploring approaches to the peaks (9). We were impressed, but also appreciated that "the secret was out".

We were so certain that we only needed a short weather break to finish the route that Nick, Chris and I made a second trip to the area for three weeks in October 1998 (10). On this lightweight dash we approached in Fernando's large inflatable with two massive outboards that we hired in Puerto Natales. The weather in 1995 had been bad, the weather in the summer of 1998 was worse and the weather in October was atrocious. We were battered by even worse storms and did not even reach our high point of January. The weather at the 802m site was so unpleasant that we reverted to a site near a small lake at 300m in the shelter of a boulder.

Increasing age impairs ones memory and within a few months of our return the old team of myself, Chris, Nick and Niall W-J started to plan another return to the area in the early summer of 2000. We heard that Inaki san Vicente had sponsorship from the TV programme "Al fin de los Imposible" to attempt La Dama Blanca in November 1999. His experience from 1998 showed his ability to operate in the inhospitable climate and we therefore looked for alternative objectives for our trip in the event of his team's success. It was not difficult to choose a magnificent looking peak in the unexplored area south of La Dama Blanca. Jack Miller had aptly named this Angel's Wings when he first entered the range and I had obtained good photos of its northern side in 1995.

After Christmas 1999 we had a message from friends in Punta Arenas saying that Inaki and his team were back in town having spent a month hoping for a weather break. We were not surprised and kept our plans as versatile as possible but then got a second message saying that he and Rafael Quesada had returned for a second round with La Dama Blanca and were rewarded with good weather, making an impressive and well earned first ascent after a total of two months of psychologically hard waiting (11). Only those few people who have spent weeks living in this ecologically magnificent but meteorologically hard environment can truly appreciate how much they must have deserved this reward for their patience. We were impressed, but a bit jealous.

Chilean interest in this magnificent but wild Cordillera has only slowly developed but the increasing amount of adventure tourism based out of Puerto Natales means that this is likely to change. In 1998 Hernan Jofre made his first reconnaissance trip into the area. In January 1999 a group of five members of the Catholic University of Santiago led by Mauricio Ortiz with Rodrigo Flores, Patricia Cuevas, Juan Antonio Villarroel and Manuel Bugueno visited the area south of Angels Glacier and climbed Cinco Amigos (12). In February 2000 Jack Miller revisited the area for the first time since 1992 and re-climbed No Problem Ridge with local climber Hernan Jofze who owns the Concepto Indigo Café and residencia on the sea front in Puerto Natales, with its magnificent view across the estuary towards the Cordillera Sarmiento. They were accompanied by Sergio Echeverria.

With the Chilean University trip, Inaki's ascent of La Dama Blanca, Jack and Hernan's visit and our expedition in October (13) the Cordillera Sarmiento has seen more visits to the area during 2000 than in the preceding seven years. This does not take into account the three visits we saw from international cruise ships that have now incorporated the Fjord of the Mountains into their itinerary to see the "remote and unspoilt channels of western Patagonia". Normally their visits give punters a sea level view of dense clouds and penetrating drizzle.

MAPS

Map One: Location of Cordillera Sarmiento in Southern Patagonia.

Map Two: Cordillera Sarmiento Northern Section to show Cordillera and La Roca.

Map Three: Cordillera Sarmiento Southern Section to show Cordillera and La Roca with approach from Puerto Natales.

KEY TO MAPS

- 1) Southern Tip of Southern Patagonian Ice cap.
- 2) Site of Jack Miller's 1992 Expedition's First Base Camp.
- 3) No Problem Ridge. Access to Ice Cap.
- 4) Ridge used by two 1998 attempts on La Dama Blanca and by 2000 First Ascent of La Dama Balanca.
- 5) First Base camp of David Hillebrandt's 2000 Expedition.
- 6) Second Base Camp of David Hillebrandt's 2000 Expedition.
- 7) Pico Anwa.
- 8) Taraba One & Two.
- 9) La Dama Blanca.
- 10) Angel's Wings.
- 11) Inaccessible Valley.
- 12) Site of Glacier Camp on Angel's Glacier. David Hillebrandt's 2000 Expedition.
- 13) Sheltered Anchorage and route of Portage.
- 14) Route from Puerto Natales via Canal Kirke or Canal Santa Maria.

- 15) Southern Tip of La Roca Peninsular.**
- 16) Southern Tip of Cordillera Sarmiento de Gamboa Peninsular.**
- 17) Mount Massif.**
- 18) Las Tres Furias (The Three Furies also known as Miller's Towers).**
- 19) Approximate area of operation of the 1999 Chilean Catholique University of Santiago.**
- 20) Site of second Base Camp of Jack Miller's 1992 Expedition.**
- 21) Approximate position of Fickle Finger of Fate.**



Gulf of Peñas

ARGENTINA

ATLANTIC OCEAN

CORDILLERA SARMIENTO

PUERTO NATALES

TIERRA DEL FUEGO

SOUTHERN PATAGONIA AND TIERRA DEL FUEGO



Glaciers and Icefields



Beagle Channel

Cape Horn

CORDILLERA DARWIN

MT DARWIN

Punta Arenas

Strait of Magellan

Cape Virgins

Paine

Lago Argentino

Lago Viedma

Lago San Martin

MT FITZROY

San Julian

Rio Chico

Rio Santa Cruz

Santa Cruz

Puerto Deseado

Baker Channel
WELLINGTON ISLAND

76°W

72°W

70°W

68°W

66°W

48°S

48°S

50°S

50°S

52°S

52°S

54°S

54°S

56°S

56°S

76°W

74°W

72°W

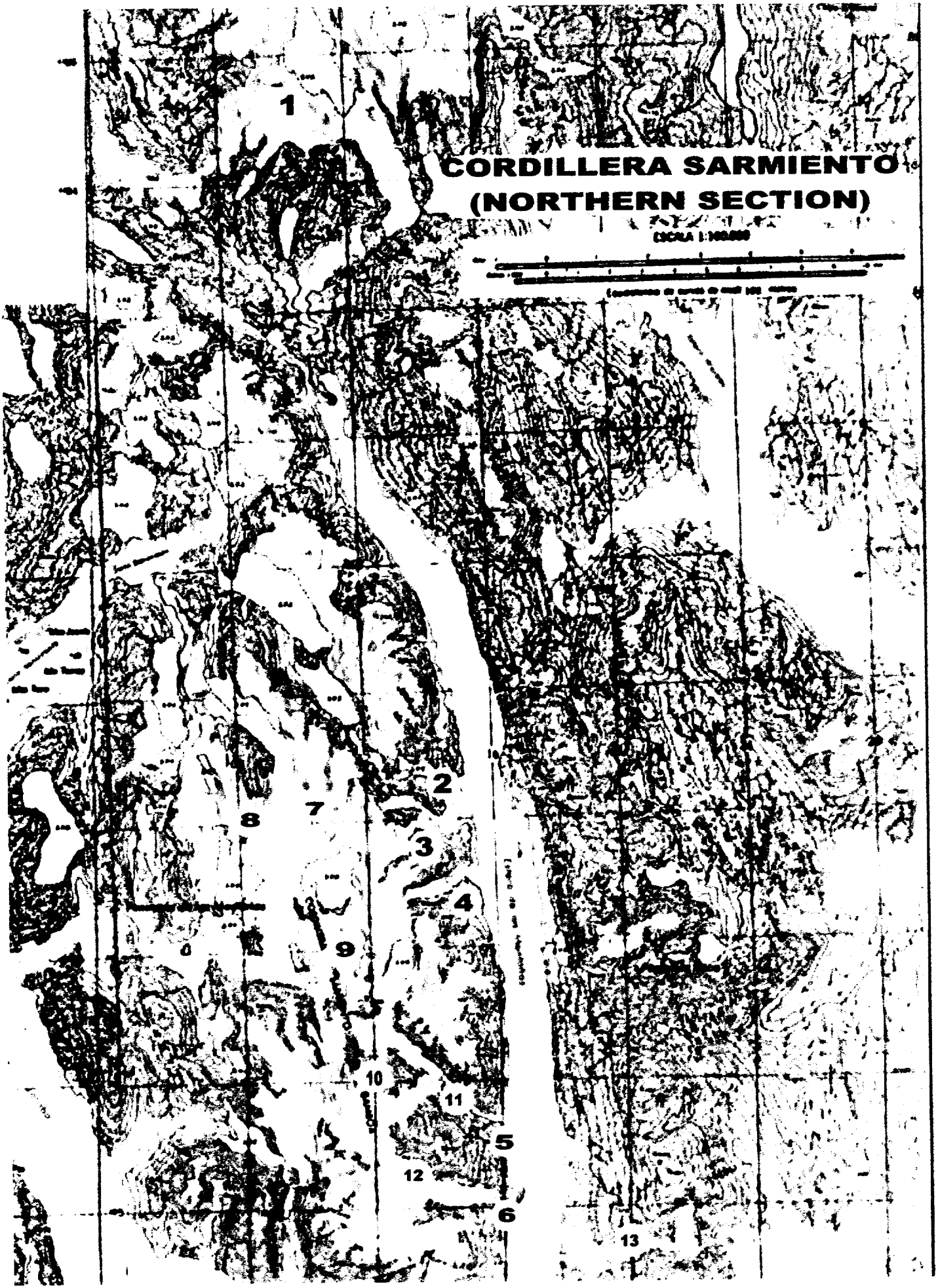
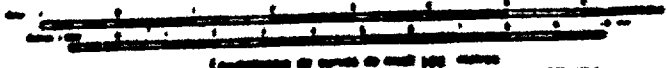
70°W

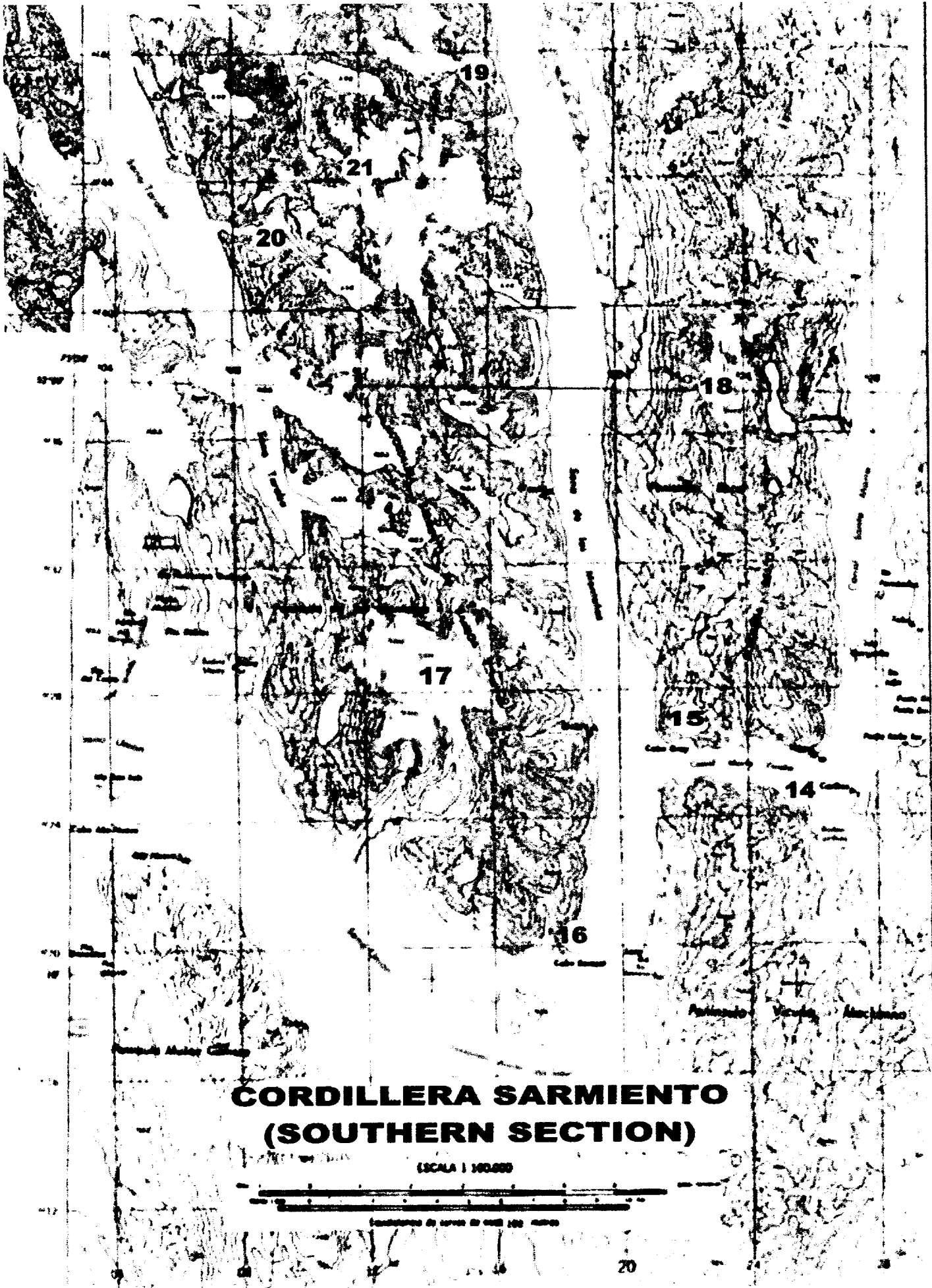
68°W

66°W

CORDILLERA SARMIENTO (NORTHERN SECTION)

ESCALA 1:100000





**CORDILLERA SARMIENTO
(SOUTHERN SECTION)**

ESCALA 1:100,000



CONDICIONES DE TIPO DE 100 METROS

20



**Glacier Camp on the upper Angel's Glacier.
Nick & Nial move up.**

THE 2000 EXPEDITION

For the sake of one's sanity it is vital to keep an accurate daily diary when on a trip in the Cordillera Sarmiento. There is a temptation to write nothing during the prolonged days of storm. They blur into a succession of snoozes, book chapters, snoozes, card games, snoozes, cups of tea, snoozes, writing, snoozes and (on this trip) playing with our laptop. I also recommend taking lots of photos of team members festering at base camp or cocooned in their sleeping bags in damp wind swept tents. Take photos during those inevitable dashes out of the tent when nature finally forces you out of your sleeping bag and into your shell clothes.

Why?

After a few months at home expedition members will go through a crisis of self-confidence. Human memory is very selective and they will have forgotten how miserable the weather can be, how penetrating the rain can be and how strong the wind can be. They will start questioning their own motivation and, as with any grief reaction, will start on the "if only" questions. "If only" we had pushed on as the storm hit, "if only" we had put up with the 70 mph wind which could not possibly have been as strong as we imagined. Your diary and photos will remind you of the realities of the soul-destroying weather, hopefully keep you in touch with reality and maintain your sanity.

I am scared that I have now passed through the "if only" phase of return and recognise that I am now entering the gambling phase. This is particularly dangerous. I can remember the misery but I also have vivid memories of the company of friends, the beauty of the fiord, the woods, the plants, the ice, the boulders, the birds, the inlets and bays. More alarmingly my mind sees glimpses of unclimbed alpine peaks teasing us between the clouds. The lines are obvious and only need "a short break in the weather". This is the dangerous stage. Reality tells me that a further return is stupid. I have better things to do with my life. There are other unexplored areas of the world with unclimbed peaks and better weather. But.....

The phone rings and a partner from a previous trip mentions that he might just possibly consider a return; he mentions a specific approach and line. We suffer from the same disease: A senile degeneration of the memory, eternal optimism and a gambling streak. Why gamble when it should be obvious that the weather odds are stacked against us?

Lets look back at the 2000 trip. What did we achieve?

I can sleep easy. We explored two potential approaches to the peaks. We made the first reconnaissance of the central section of the Cordillera. We excluded

one approach option and opened up a second option. We made a photographic survey of the mountains surrounding Angels Wings and found the key to several peaks. We had the honour of sailing up the Fiord of the Mountains in perfect weather and even photographed Mount Burney.

After the normal chaos of international travel, expedition shopping and Patagonian socialising it was pure pleasure to leave Puerto Natales just before dawn five days after leaving Heathrow. The Penguin is a magnificent boat and we were accompanied by Hernan from the Café Indigo and Simon Littlejohn, a British wildlife photographer who had spent many months in the Paine Park stalking Mountain Lions. Simon was on one of his rare R&R breaks in Natales and we had dined with him the night before. Through an alcoholic blur he had agreed to a 5 am start for the "boat trip of a lifetime". He was not disappointed. The weather was perfect; sunburn was a major risk and the sea a millpond. We had been prepared to arrive in the normal Patagonian rain but instead spent the whole voyage on the deck with cameras clicking. Would this amazing pattern continue?

In the UK we had spent hours enlarging maps, laminating photos from previous trips and pondering the best approach to Angels Wings. All the information we had related to the north side of the peak and we hoped that the deep valley south of the La Dama Blanca would give us access to the twin summits of the peak. It had proved impossible to hire an inflatable for our own use so it was essential that we were dropped on the most suitable headland. By early afternoon we were standing on the beach with all our equipment, waving goodbye to our friends on the Penguin.

Not trusting this incredible weather we hardly dared to hope it might last and six hours of intensive work followed as we cleaned up an old fisherman's camp on the edge of the forest. The tent was pitched on the beds of discarded muscle shells, a tarpaulin erected over our kitchen and the satellite phone's Ariel secured 20 ft up a tree to ensure reception. Fresh water came from a small waterfall over a vegetated sea cliff just across our private beach.

We woke to light drizzle but set off with day sacs heading north along the beach and then up various rock steps working our way into the valley that appeared to offer a route westward into the range and the north side of Angels Wings. By the time we were 100m above the glacial estuary that penetrates the range we were beginning to appreciate the difficulties of our chosen access route. The glacier had retreated about a kilometre into the range leaving a long estuary. The old terminal moraine at the mouth of the glacier had meant that it was impossible to penetrate the estuary by boat. At sea level progress was barred by dense forest, deep gullies falling into the lake and smooth cliffs up to 100 feet high. We worked our way further into the valley crossing some rock steps that would be interesting if carrying full packs. By midday it had become fairly obvious that we were backing a loser. Nick and Niall returned to camp planning to explore a possible route south along the steep coastline. Chris and Dave remained to finally confirm our suspicions that we had probed the "Inaccessible Valley". They watched the valley for about an hour and took a series of photos showing the steep sides, rocky and greasy sea level cliffs and

avalanche runnels extending from the glacier and seracs high on the southern side of the valley. Any approach to the snout of the glacier seemed guarded by avalanche or rock fall and there was no visible site for a camp. Even if we had been able to reach the northern side of the valley it was even steeper. By 2pm the despondent pair had returned to camp. It was another couple of hours before Nick and Niall returned from their explorations to the south.

Nick confirmed that it would be possible to move our camp to the next valley south. We estimated that it would take at least six carries each and each return journey would take about five hours. We were in for some very hard work. The route that Nick had found started by climbing a steep sea cliff that started with a greasy rock traverse and then involved the use of ice axes to surmount the steep vegetation covered cornice that guarded the first terrace. From here one wound one's way up rock walls interspersed with dense forest covered ledges. What a task. After a short rest Nick and Dave started work creating a causeway of boulders along the initial traverse and then fixing a rope for the first 100ft of the climb. I enjoyed our Paella before we collapsed into bed contemplating the next few days. What a way to get fit.

It was with mixed feeling that we woke to a hot sunny day. It would be really miserable making our multiple carries in wet and wind but we wanted to save any ration we had of good weather for the high hill days. The first traverse and fixed rope was not easy with a full pack but the four of us pushed on, up and across heading south to our new valley base. The sea cliffs meant that we were forced to go up 200m before starting to descend to the mouth of Angel's Valley.

In Patagonia one is not surprised when the impossible becomes possible, when prayers are answered and miracles happen. I forget who first saw the sail of the passing yacht but within seconds we were all shouting and waving. We divided into two groups to ensure that we did not waste the effort already put into this carry if the yacht turned out to be a shared hallucination. Niall and Dave rushed back constantly shouting and waving our red cags. It seemed an eternity before we were seen and the yacht slowly turned and headed towards our bay. This was the only yacht that was to pass this way during our whole stay.

Gerard and Colette never knew how much we wanted their help. Hiva-OA is their home and they have spent enough time in these canals to be unphased by the sight of mad mountaineers tumbling out of a vertical forest and hitching a lift. It took us two hours to do a rapid pack and by mid afternoon we had moved everything one and half kilometres south to our new (and better) base camp site on the southern side of the alluvial fan that extends from the snout of Angel's Glacier. They left us to find a sheltered anchorage on La Roca and we spent five hours constructing a weather proof Base tucked into the protective forest edge just above the high tide mark. We had a perfect view south down the fiord. Back in business we prayed that the weather would hold.

The next morning Nick and Dave boulder hopped across the network of streams and pools that make up the sandy fan at the mouth of the Angel's valley. This is the only glacial inlet on the west side of the fiord that I have

visited where the snout of the glacier is easily reached and the mouth of the valley can be crossed on foot. It took us three and a half hours to scramble up the northern shoulder of the valley and return to the camp having collected two loads that Nick and Chris had left the morning before when our dream transport had arrived. Chris and Niall explored the southern edge of the glacier to see if there was a feasible route up the rocky moraine valley which would avoid the complex lower icefall. They reached a dead end. In the afternoon Nick and Chris accepted the challenge of a more direct ascent through the lower icefall, by 4.30 they were back reporting success.

The 1st November was a good day. There were showers, intermittent heavy downpours and cloud down to about 800m but something about the weather pattern was not truly typical of the cordillera. The wind on the glacier was constant and cold but never had the ferocity normally associated with Patagonia. If this continued we were confident that we could keep operating. All four of us carried full loads through the lower icefall with its subtle route finding and occasional steep sections. It was great to have crampons on and swing an ice axe into good quality ice. There then followed a relatively flat dry glacier offering a highway into the range. At 320 m there is a prominent boulder offering some shelter at the point where it is necessary to rope-up. Here Nick and Niall prepared a platform for our Quazar tent that was used as an intermediate shelter for the early part of the trip. It took Dave and Chris two hours to find a relatively easy way through the southern side of the second icefall and open up the route to the centre of the peninsular. We were knackered and cold after eight hours of hard work when we all arrived back at the comfort of Base Camp. The evening weather was good enough to wash and dry a pair of pants.

The next day we planned an early start but rain dampened our enthusiasm. Niall and Nick left first with heavy loads then Chris and Dave headed for the Quazar with personal gear and moved on through with heavy loads to get them established above the second icefall. This gave Nick and Niall a well-earned afternoon's rest at base and the other pair slept in the Quazar. This illustrated the difference between operating from a glacial camp compared with the damp, but relatively sheltered, comfort at sea level. Radios would have been useful since Chris and Dave spent Friday lying in the Quasar in heavy rain only to be surprised and slightly embarrassed to be greeted by a wet Nick and Niall who had made another carry in pouring rain. It must have been made very clear that they would not be welcome in the warm snug dry tent since they dumped loads and went straight back down.

On Saturday morning the weather was a bit better so to avoid further humiliation by the lower team Dave and Chris moved on up, soon followed by Nick and Niall. We all arrived at a suitable campsite on the upper glacier at 600m just as a blizzard started. The site was exposed to the wind in the centre of the glacier but well away from the avalanches that came down from both sides of the valley. This was to be our stepping off point for any attempt on Angels wings and during the carry we had all glimpsed the summit spire of the peak. It looked possible with a line of weakness on the northeastern flank. Despite the weather Nick and Dave made a second carry whilst Niall and Chris

dug-in the two Hyperspace tents and prepared supper. It was amazing how quickly our Paramo shell clothing dried as we sat in the tents having our evening meal.

Was the weather changing or was it just because we were sitting in tents in the centre of the range at 600m? The diary tells of "Intermittent heavy showers and medium strength wind". We all lay around until 3pm but then a short lull lured us out. Nick and Nail pushed on up to the edge of the steep crevassed slopes that appeared to lead up to the north and give access to Angel's Wings. Dave and Chris jogged down to the Quazar and arrived just in time to shelter from a particularly heavy deluge of rain. They sat out the worst of the storm and went back up with more food and fuel to find that Nick had prepared supper.

The diary for Monday 6th November reads "Calm and no wind at 4am and 5am. Could today be summit day? Then at 6am the wind starts. Blizzard for 36 hours! Wind hammers and hammers and pounds and pounds. Snow +++
Mental hell again".

It eased early on the next morning and we all baled out to sea level where we could spread out and were watching porpoises in the fiord when we heard the throb of an approaching engine. A helicopter appeared out of the mist and circled before putting down on the beach. The Chilean Navy was out for a spin and joined us for tea. It did not take them long to decide that we were too mad to present any risk to national security.

We begin the endless Patagonian pattern of two hourly alarm calls to check the weather and barometer. This continues for three days until a late easing in the weather on 12th November lures us up to the Glacier Camp again but we arrive as the wind rises and rain hits so we simply check the tents and head back down. It was good to exercise our legs. On arrival back at Base Camp the sky clears slightly. Had we made the correct decision?

The 4 am weather check the next day was good and by 5.15 we were off again and passed our Glacier camp at 8.40, moving on up after a ten minute break. With the large crevasses we moved best as two ropes of two on knotted ropes. The information we had gleaned from the maps and photos indicated that we could climb to a col, cross a 1 km glacial plateau and should then be able to swing onto the north east flank of the mountain which we had seen from below.

Back to the diary:

"Up, up and up, winding round crevasses (and into some with one leg). Really optimistic, up and up hoping for sloping plateau from the col we can see BUT-bugger-pull over col at 11pm. There is a row of seracs guarding Angels Wing's southeastern approaches. There is a way round them but after the northerly, wind driven, snow of the last few days two windslab avalanches are visible and the slopes must be really loaded"

In the cold driving wind the only thing to do is to head down. Our altimeters indicated 1100m. We take photos of this magic area. Unique data on the

approach to several peaks normally guarded by cloud. It does not take long to descend 500m to our Glacier camp which is relatively sheltered from the wind. We are able to contemplate our failure whilst sitting outside the tents for a sunny hour before the wind increases and we are forced into shelter. We all spend the night in the camp but the wind increases further and we realise that the upper slopes will be becoming more dangerous. The next day our southern hemisphere weather expert announces that a storm will hit at 6pm. He decides to descend. Chris is keen to download our digital camera and joins Nick. Niall and I, ever optimistic (or is it naive?) about the weather elect to remain. It will give us a three hour start on the lower pair when the weather improves. I spend some time reinforcing the tent anchors in case Nick's prediction is correct. At about 5.30 pm the storm hits.

Niall and I spend the next thirty six hours alternately struggling outside on a three hour rota to dig out the camp. Finally we give up and collapse the lighter Hyperspace, then use 50m of rope, five deadmen and all available anchors to secure the heavy duty Hyperspace and bale out through the blizzard to join Nick and Chris. An interesting descent.

The storm continues for another eight days and the main excitement becomes the challenge of seeing whether it will be break Nick's New Zealand record of being stormbound for eleven days in a mountain hut. Wind, rain, squalls, wind, snow to sea level, wind, drizzle, wind, sleet. What a life of variety. We start to worry that we might not only fail on the peak but that we might also loose several thousand pounds worth of equipment at our high camp. Then we subconsciously bargain with the Gods. How about the equipment in exchange for the top?

A weather check at 3am on Saturday 25th shows the normal rain but at 5am it is quiet and at 6am we hear a bird. We decide to go up with empty sacs to see if our camp still exists after eleven days of storm and nine days unattended. The weather cannot be described as good but here everything is relative and we move up in intermittent drizzle. The icefall has changed and I ask for a rope for one of the enlarged crevasse jumps. It takes an hour and a half to dig out the "brick shit house". We are impressed. When we arrive all that is visible is a small section of the top of the dome but the tent is secure, a bit damp inside but would be habitable if we had the energy to stay up for longer with more bad weather arriving rapidly. We slowly trudge down with four massive loads. Deep inside we all know that this is the end but we still talk of a break in the weather and rapid ascent from sea level. At least we know the route.

In theory we could stay for another week but the weather resumes its normal pattern. Gerrard and Colette return to the fiord and drop in to say hello. One afternoon we have an outing and join them for tiffin aboard Hiva anchored in a perfect bay on La Roca. On another day another cruise boat chugs past, its passengers insulated from the realities of the Cordillera Sarmiento. The weather continues to play with us and finally we crack and phone for Conrado to collect us three days early.

DIARY

23rd October 2000 To 3rd December 2000.

23 Oct: Depart London Heathrow.

24 Oct: Arrive Punta Arenas.

25 Oct: Shopping.

26 Oct: Minibus to Puerto Natales.

27 Oct: Final Shopping & Visit Milidon Cave.

28 Oct: Sail in Penguin to First Base Camp in good weather.

29 Oct: Two teams explore access west to Inaccessible Valley and south to Angels Glacier. Overcast with drizzle (good weather).

30 Oct: Start to portage base camp south. Afternoon moved south by Yacht. Establish Second Base Camp. Sunny day.

31 Oct: One team collect dumped gear. Reconnaissance of Angel's Glacier. Overcast.

1 Nov: All members carry through first icefall. One team reconnaissance of second icefall. Overcast some rain.

2 Nov: Nick and Niall carry to below second icefall and descend. Chris and Dave carry on through second icefall and return to camp just below it. Storm starts.

3 Nov: Chris and Dave tent bound. Nick and Niall make wet carry to intermediate camp.

4 Nov: All up to 600m camp on Glacier. Camp established, occupied and one group make second carry in increasing storm.

5 Nov: Gap in storm. Nick and Niall explore route ahead. Chris and Dave collect further fuel from intermediate dump.

6 Nov: Storm. All tent bound at Glacier Camp.

7 Nov: Storm. All tent bound.

8 Nov: All descend in rain and poor visibility. Helicopter drops into Base Camp for tea.

9 Nov: Intermittent drizzle and low cloud. Base Camp.

10 Nov: Heavy Rain and wind at Base Camp.

11 Nov: Squalls at Base Camp.

12 Nov: Break in weather. All up to Glacier Camp with light sacs and back to Base Camp as weather returns to normal.

13 Nov: Clear morning. Early start. Up to Glacier Camp and on up to 1100m plateau below Angels Wings. Very strong cold wind. All back to Glacier Camp.

14 Nov: Nick and Chris descend in bad weather. Dave and Niall remain in camp.

15 Nov: Stormbound. Fight to save tents.

16 Nov: Niall and Dave secure camp and retreat to Base Camp. Heavy rain and snow.

17 Nov: All members at Base Camp. Constant rain.

18 Nov: Heavy intermittent wind and rain.

19 Nov: Heavy rain at Base Camp. Snow above 200m. Cruise Ship passes.

20 Nov: Rain and wind all day.

21 Nov: Even heavier wind and rain.

22 Nov: 30 minute respite from rain in afternoon. Snow at sea level at night.

23 Nov: Rain and Wind.

24 Nov: Rain and Wind. Day eleven of storm.

25 Nov: Slight let up in weather. All members to Glacier Camp to collect buried equipment. All return to Base Camp. Cruise ship passes.

26 Nov: Pressure rises. Wind swings to south. Squalls.

27 Nov: Wind and rain. We all go out for tea and cakes.

28 Nov: Return to Puerto Natales in high wind.

29 Nov: Puerto Natales to Santiago.

30 Nov: Santiago.

1 Dec: Santiago. Buy maps for future visits to area!

2 Dec: Fly from Santiago to Heathrow.

3 Dec: Home.

GENERAL INFORMATION

TRAVEL

On this expedition all our travel arrangements were dealt with by our major sponsors, Saga. On their advice we flew from Heathrow with Iberia to Santiago via a short stop in Madrid. Iberia gives a two-item baggage allowance of 60kgs per person. Despite a letter from Saga and apparent prior notification their staff still managed to be awkward at the check-in. Our secret weapon flew into action with the unique blend of W-J charm and obnoxious bull-shit. Half an hour later with a gesture of repacking and a couple of feet under the edge of the scales and we were accepted with no excess fare. We sometimes wonder if his system works simply by exhausting the opposition.

On arrival at Santiago we went direct to the internal flights terminal where we were booked to fly with Lan Chile to Punta Arenas. We were aware that the internal luggage limit was 30kgs per person but again we used W-J. What charm! Not only were we accepted for the next flight saving us an expected wait, but our 160kgs excess disappeared onto the flight with little trouble and WJ was the proud owner of the attractive booking clerk's home phone number. This was typical of the service we have always received from both Lan Chile and Ladeco over the years. Unlike European airlines they keep the tradition of employing beautiful staff who genuinely seem to want to be helpful.

On the previous five trips that I have made to Patagonia from the UK I have used the services of Journey Latin America. They seem to have a grasp of the needs of mountaineering expeditions and, given sufficient notice, often manage to negotiate excess baggage deals and good fares. I have flown various routes on their advice, sometimes via Miami and sometimes with BA to Santiago.

PUNTA ARENAS

The airport at Punta Arenas is located about 20km east of the town on the road to Puerto Natales. The cheapest way of getting to the town is the airport bus which appears to have no baggage limit and cost about 2US\$ per person. This will deposit you in the town centre and from there taxis are cheap and many have roof racks. On this trip we hired Manuel Nelra and his minibus at the airport to take us direct to our Residencia with all our equipment for 20US\$. On the trip we negotiated a group fare to Puerto Natales two days later and he proved very reliable and helpful throughout the expedition.

A cheaper way to travel the 200km (three and half hours) to Puerto Natales is by with one of the many companies who seem to run almost hourly services. In the case of a large group a day's advance booking may be advisable and excess may be charged for bulky baggage. Cost is about 3.000 pesos per person.

The town is full of Residencias offering clean, comfortable and secure accommodation. We again stayed with Maria at her Residencia Nena. Over the last fifteen years she has built up a reputation with British climbers and always gives a fantastic welcome. We had written in advance to book our rooms which can sleep up to three guests but do not leave much space for one's expedition equipment, although she seems happy to see equipment being sorted in the corridor and the garden. On this sponsored trip we rented one room each and enjoyed the luxury.

There are well stocked shops in the city and we purchased 35 days food and fuel in one massive supermarket session.

Restaurants and bars abound and experience has taught us that by going for the mid range prices one tends to get the best value with excellent steaks, seafood and the world famous Chilean wines. El Mercado is hidden upstairs above a market/mall, open 24 hours a day and is particularly good value.

All ones needs can be purchased in the town but the Zona Franca is located 3Kms out of town on the airport road and is a massive out of town shopping area. It is easily reached by taxi or cheaper colectivo. Opposite the Zona Franca is the Instituto de Patagonia. This is a university research institute. Outside the building is an impressive display of transport and machinery and it also houses a detailed library on expeditions in the area. If you want to visit it is worth making an appointment.

The museums in town give insight into the development of the area and are worth a visit. At the east end of the main shopping street is the "Agostini" Museum next to a Catholique church and almost opposite the cemetery. It has displays of Agostini's mountaineering and exploration of Patagonia and is almost a "museum of museums" with its stuffed and pickled specimens, and a curator who may well be confused with an exhibit as he snores in the corner exuding the smell of mothballs. I recommend an afternoon visit after a few lunchtime beers.

John Rees, the British Consul, has always kept a watchful eye on British Mountaineering expeditions. He is a mine of local information and I recommend checking-in as you pass through Punta Arenas. We left details of our trip with member's passport numbers, next of kin, emergency contacts and insurance details. In the event of an emergency this would make his job much easier. Do not forget to "clock out".

PUERTO NATALES

Puerto Natales cannot be faulted in terms of friendliness and help from locals. Its main summer industry is "Gringo Processing" for trekkers to the Paine National Park but more and more agencies are springing up to offer other outdoor adventures with equipment and guides available for hire. Every street has several Residencias but over the years we have found the owners at Casa Cecilia particularly helpful. On this trip we stumbled across Hernan who owns the Conceptio Indigo café with internet facilities on the sea front. This is an excellent place to mellow out and he is an active climber with a love of the area who is struggling with ideas to combine sensitive tourism with conservation.

Explore the many restaurants serving steak and seafood. You tend to get what you pay for with some exceptional food and some marginal delights. I am sure I remember one bar echoing with laughter when I fell of the barstool. Was it my imagination or was the owner from Leeds?

The Disco Milidon was visited by one member on our 1998 trip. His memories are vague but it provides a much needed venue where fishermen and gauchos from remote estancias can meet local ladies. Conversation is lubricated by alcohol. It appears that the falling seracs and prolonged storms of the mountains may be less risky. Interestingly a local extinct prehistoric animal was named after this internationally known dance centre.

Despite the fact that we had all visited Puerto Natales several times before none of us had visited this Milidon cave which is only 40 minutes drive from town. On this occasion we had an afternoon free and hired a taxi. It is a trip that I would thoroughly recommend. The cave is in magnificent tranquil woods with a view across the inlet to the mountains. The rock making up the escarpment is a firm conglomerate and boulders abound.

SHOPPING

Shopping in Chile is easy with most things being the same price or a bit cheaper than in the UK. It is therefore pointless taking basics on the plane. Over the last fifteen years the selection available from the shops in both Punta Arenas and Puerto Natales had increased dramatically. It is now possible to buy virtually everything you need in Puerto Natales although prices are a bit higher than in Punta Arenas and the food selection in the supermarkets may not be quite so varied.

We have always taken films and batteries from the UK although one can buy slide film on the gringo trail in Puerto Natales.

It may be difficult to buy Kerosene or White Gas (Benzene Blanca) in Puerto Natales and we normally purchase this at the Ferrateria in Punta Arenas. It is also difficult to get good quality fuel containers in Natales. We normally Buy Wellies, cutlery, pots and pans, nylon cord and other hard wear in Punta Arenas since it is a city geared to equipping sailors and others disappearing for weeks on end. I did see some excellent rope suitable for fixing on routes for sale in one hard wear shop just east of the main square in Punta Arenas.

MAPS

Originally the only map of the range that was available was a schematic sketch in the 1994 National Geographic Magazine article by Jack Miller. Nautical Charts show the edge of the range but are of no use once landed.

The whole range is now mapped at a scale of 1:100,000 by the Chilean Government and is covered by three sheets. The main central section of the Cordillera, including La Dama Blanca, Angels Wings and the glaciers where most of the mountaineering has been done to date is covered by sheet "Cordillera Sarmiento de Gamboa" number 5130-7245 seccion K No 28. This also shown a large part of Peninsula Roca. The Canal Kirke sheet number 5200-7245 seccion L No 4 shows the southern end of the Sarmiento Peninsular and the southern end of Peninsular Roca with a lot of the sea approach from Puerto Natales. This also show Mt Burney although large areas are not accurately mapped due to almost permanent cloud cover.

The Isla Piazzzi 5130-7330 seccion K No 27 sheet shows the northwestern tip of the range with part of Taraba Sound.

APPROACH

A boat (or helicopter) is the only way to approach the Cordillera Sarmiento and this normally involves expense. For comfort, reliability, a good knowledge of the area and climber's needs I would recommend pre arranged charter of the beautiful 50ft ketch rigged motor sailor "Penguin" that is owned by Capt Conrado Alvarez D. This boat was built in Britain in 1907 and purchased by Conrado from its owners in the Falklands. He has had it fully restored and recently fitted a new engine. It now has berths for a maximum of 10 people and took about six hours for the journey to our Base camp.

One can only admire Inaki and his Spanish team who have used kayaks with a portage across La Rocas for transport. The North American outdoor school NOLS have now run Kayak trips into the area. I don't think this is only done to save the cost of boat charter but with increasingly organised tourism in Puerto Natales it is more difficult to scrounge or hitch a lift than it used to be.

In 1995 personal approaches to local fishermen resulted in us travelling into the area on the Soberania 2. This was a 45ft fishing vessel with a crew of three. They charged a 350US\$ one way fee for the trip and had been due to pick us up 35 days later. Soberania 2 had GPS, a radio, echo sounder and a life raft. Eventually we hitched an early lift out with a small 30ft boat that had been poaching timber for fence posts. They got 1US\$ per post and a weeks hard work resulted in a load of 100 posts. This overloaded and underpowered boat had a radio and one half inflated but patched inner tube painted red and white as a safety aid. We were fed and hosted well with welcome seats next to the wood burning stove in the cramped cabin. There was no mention of any fee. The crew seemed thrilled when we gave them our old expedition pots and pans and 100US\$ on arrival well after dark. I suspect that they had been suitably entertained by the sight of terror on the faces of the two non-nautical expedition members. We had been hit by a storm, the cargo had shifted and we spent the last four hours of the voyage hopping from island shelter to island shelter with a 45 degree list making good use of a primitive bilge pump. The outward trip took six hours, the return twelve.

On our first trip in 1998 the Chilean coastguard service came up trumps and transported us to and from the area in their powerful gunboat the "Villarica". This boat is no longer based at Puerto Natales. As on previous trips to Patagonia the Chilean Naval Authorities were amazingly helpful and Teniente De la Fuente and his crew made us very welcome on the five hour trip collecting us a month later with a very welcome meal and bottle of whisky.

The fastest journey we have made has been with Fernando Viveros who is based in Natales with Onas expeditions. He has powerful rigid inflatables that can just carry fuel, four team members, equipment and himself and one crewmember. In the event of bad weather they can beach on the canals and sit out the storm but in good weather he can skim into the area in four hours. The cost of the journey by inflatable is comparable to chartering the Penguin.

PERMISSION

On recent trips we have not sought or apparently needed official permission to climb in the Cordillera Sarmiento, which is not part of the Paine National Park. It does, however, appear that some officials occasionally feel the need to see some official looking papers as part of an international "jobsworth" conspiracy. To this end we now carry a letter on Chilean Embassy Notepaper giving their blessing to our trip. We also carry a letter exempting anybody and everybody from any responsibility regarding our actions. We have details of our insurance and next of kin and a letter from a tame bank manager suggesting that we have "adequate funds". We carry Spanish translations of all these documents.

On my first visit we did not come prepared and the Capitain of Puerto Natales decided we needed permission from the Ministerio de Relaciones Exteriores in Santiago. This sounded daunting but was kindly organised within 24 hours by fax by the helpful staff at the Gobernacion Provincial Office in Puerto Natales. He now seems pleased that we have so many official bits of paper that he is saved the bother of making further enquiries. It is sometimes best not to draw too much attention to ones intended departure to save the local officials any unnecessary work.

During the 2000 expedition we were surprised to see a Chilean Navy helicopter patrol the Fiord of the Mountains and they put down near our beachside Base Camp. After a short dose of WJ bullshit and a few waved papers they were happy to join us for a cup of tea and promised to deliver take away Pizzas if they were in the area again. They did not return.

EQUIPMENT

A lot of time in the Cordillera Sarmiento is spent waiting for a break in the damp/cold weather. Experience over several trips has shown that comfort at Base Camp is essential. To achieve this we stored food and equipment in waterproof sealable chemical drums. Two massive tarpaulins were joined to cover our base camp Terra Firma four man tent, cooking area and storage area. This required a large quantity of nylon cord. Nick created a kitchen table with raised storage shelves. One drum was used to collect water from the constant rain on the tarpaulin which saved carrying water for cooking.

The wet/cold conditions mean that British equipment seems to work well.

Welly boots are essential for base camp use and for walking through the dense wet woods. A lot of time is spent lying down listening to the rain and wind so thick Therm-a-rests were popular, sometimes with an additional Karrimat, and the seat backs purchased by W-J made time spent reading, playing cards

and using the laptop much more comfortable than on previous trips. Several layers of fleece clothing kept us warm whilst festering around the camp. An Ortleb water bag with showerhead enabled us to enjoy a warm shower. Tent comfort was enhanced by the use of piss bottles by three expedition members but despite the Saga sponsorship one member continues to deny the gradual onset of prostatic problems and prides himself on his bladder capacity.

The wood is so wet in many parts of the Cordillera that use for cooking is virtually impossible. We relied on MSR stoves and had plenty of fuel at our sea level Base Camp. We took Benzena Blanca in Sigg bottles for use high up but petrol and diesel worked well at base camp and on this trip we managed to locate good quality plastic fuel containers in Punta Arenas. The basic XGK stoves functioned well both above and below the snowline but the newer Dragonfly stove with its simmer control could not cope with the vigour's of expedition use and constant improvised repairs kept Chris and Dave entertained for many happy hours. On return to the UK the MSR agent replaced the burner and simmer unit. MSR pans are robust and function well and we purchased a large frying pan and two big pots in Punta Arenas for Base Camp use. Nick made up two excellent plywood boards to protect the groundsheets when cooking in the tents and these doubled a card tables for our small sets of Patience cards and the endless games of 501.

A small Gerber hand axe purchased in the UK looked small and inadequate but functioned so well that one member purchased a new one on return to the UK for use on future trips.

All members climbed in double Plastic boots with Berghaus gaiters and these performed well. All mittens and gloves leaked and the only solution seems to be to have several pairs to rotate, with a constant supply of inner liners.

Experience over several years in the constant, all pervading, dampness of the Cordillera has shown that the breath ability of Gore-tex or Triplepoint ceramic fabric is a myth. In 1998 one member had been impressed with the combination of a Buffalo Fibre pile top under a Paramo jacket and we approached Paramo for support for the 2000 trip. Each member was given a top of the range Aspira Jacket and we all purchased trousers or Salopettes. Three of us also used their fleeces in various combinations. Their outerwear with a fleece and thermal underwear was more than adequate for all climbing conditions. To say that we were impressed is an understatement. One member who is issued with free Gore-tex every six months has now converted entirely to Paramo equipment for wet British conditions. For those unfamiliar with the Paramo concept it is best to explain that it is based on a windproof but very breathable and soft outer fabric combined with a soft wicking liner. After several weeks use it can be washed. Washing can also be used to reproof it after extensive use. Any tears can be sewn. It is a concept that works! The design of each garment is well thought out, with brilliant hoods, pockets and free fit. We were never really soaked and even after severe storms we could sit in our glacier camp tents in our shell clothing for about an hour whilst it dried and was then comfortable enough to use as a pillow. We did find a fault with the trouser zips and have discussed this with the company.

In this environment down sleeping bags would be useless so we all used synthetic bags and above base camp kept them permanently in Gore-tex or Terra Nova bivvy bags. Two members used North Face bags and two used Caravaan bags.

For storage Ortlieb dry bags were brilliant but most of us relied on packing things in plastic bags, in plastic bags in Ortlieb bags.

As on previous trips all our tents were supplied by Terra Nova who must produce the world's best mountain tents for use in wet/windy conditions. At base camp we had a spacious four man Terra Firma. At our glacier camp we used two three-man Hyperspace tents. Two people shared each tent and the extra space for prolonged bad weather was well worth the weight. We also took one Mountain Quasar two-man tent although this was hardly used. Based on previous experience we used double poles on all tents and all were fitted with snow valances. The star of the show was our special heavy duty Hyperspace that became known as "The Brick Shit House". It survived an eleven-day storm at our high camp. It was anchored with snow stakes or buried pre prepared "parachutes" of cotton material in place of the main pegs, and 50m of climbing rope threaded through guy points and anchored to five deadmen!

All our large capacity rucsacs performed well although one old Lowe Expedition sac was retired after the trip following use on more than 10 expeditions over 20 years. Lowe, Karrimor, Berghaus, Macpac and Vango sacs were all used.

We climbed entirely on 60m 8.5mm ropes and took one static rope that was useful for fixing on the steep vegetated sea cliff above our first base camp. Deadmen and snow stakes are essential in this area both for belays and for anchoring tents. Our rack of rock gear was very limited with a few slings, nuts and pegs and was most use at sea level. Each member carried a couple of long screw-in ice screws and these were mainly used for making holes in the hard ice of the ice falls to fix the wands that we made up in Punta Arenas with wood from a hardware shop and spray cans of fluorescent paint. As always our Ortovox snow shovels coped well with prolonged use. Each member took their own ice tools of preference and some also took telescopic ski poles for the glacier flog. We had one spare pair of crampons in the group.

COMMUNICATIONS

The Cordillera Sarmiento is a remote area. In the event of an accident once the casualty had reached sea level there is nothing that could be done other than wait for a passing boat (or helicopter). I have been very aware of this on our trips but communications are limited by technology, cost, weight and the expedition member's technical expertise.

On my first visit we has a couple of hand held red flares and the ability to make a smoky fire as a signal. On our trip in 1998 we borrowed a bulky satellite phone and took one fully charged battery. It was only to be used for emergency calls and on its one test we failed to get it to receive a signal from the satellite at our sheltered low level base camp. We hoped that it would have worked in an emergency when we would have taken it higher. In principle I am against the concept of the use of satellite phones on an expedition but I am fully aware that I would rapidly loose all my principles if I were lying at base camp with a compound fracture and a two week wait for our pre booked boat. The use of a satellite phone that is only switched on for emergencies seems a sensible compromise. This way family at home do not worry if nothing is heard and no scares are caused in the event of a technical failure.

When preparing for trips we have looked at the possible hire and use of nautical distress beacons. On our second, rapidly organised, trip in 1988 we again had a flare but also borrowed a hand held line-of-sight nautical radio. This might have enabled us to communicate with any yacht or fishing boat actually in the Fiord of the Mountains although the visit of boats is still fairly rare.

For our 2000 trip we had time to prepare and the generous financial and technical support of the Saga organisation. We also had an obligation to provide them with photos and a diary to update their website so we were very aware of the necessity for efficient, robust and reliable but light weight equipment.

Chris is the expedition's technical boffin with some understanding of the complexities of computer, modem and satellite communications. After a lot of thought we took a Thrane & Thrane Capsat mobile telephone working via the Inmarsat system. The dish for the telephone was detachable which was a great advantage and luckily Chris had insisted on taking 50m of connecting cable. At the first Base Camp we had to mount the dish about 20m up in a tree to enable a connection to be made. At our second Base camp the dish lived on a boulder about 30m from the camp and we were able to use the system from the vestibule at the rear of the Terra Firma tent.

The dish had to be set at an azimuth of 20 degrees and an elevation of 30 degrees to line up with the Atlantic Ocean Region West Satellite. This far south one is certainly at the southern limit of the four Inmarsat geostationary satellites. Our E Mails, digital photos and occasional telephone interviews were transmitted to the Land Earth Station in France and on to the Saga Team in Folkestone.

Chris chose the amazingly compact Sony Valo notebook computer with separate modem. The team fought over this toy during the prolonged storms. We had two rechargeable batteries with an option of running the whole system direct from a Honda diesel generator or from its batteries, which could be recharged by the generator or much more slowly by a set of foldable solar panels. We could use the generator fuel in our MSR stoves.

All this delicate equipment was carried in a heavy duty, lockable, waterproof plastic case amazingly carried as hand luggage by Chris. The generator travelled in the bottom of an expedition plastic chemical drum. It was never questioned at an airport.

PHOTOGRAPHY

This was the first trip where any of us had used a digital camera. Saga provided us with an Olympus Camedia C-2500L camera with zoom facility. In the inclement weather we had to care for this camera carefully but it turned out to be robust enough for the expedition. We all had a steep learning curve but it provided some excellent pictures that were transmitted back to the UK. When making the reconnaissance probes into the range it proved a real boon to be able to download pictures onto the Valo at base camp and then zoom into the detail of the terrain and carefully scrutinise any potential lines from the comfort of a sleeping bag.

In addition to the team's digital camera we all carried personal compact cameras with slide film. Normally using 400 ASA film. With the unexpected good weather early in the trip we all used most of our faster film in the first few days. This caused a bit of worry in case the weather improved but unfortunately this was not an issue. Experience from previous trips had taught us the value of compact waterproof cameras for this environment and the Canon Sure Shot A1 worked well in the wet storms.

WILDLIFE

BIRDS by Nick Banks:

This is a record of all the bird species seen during our 28 day stay in the Cordillera Sarmiento in January 1998. The whole expedition was spent on one ridge between sea level and 1650m. The Base Camp was at sea level in dense woods. The ridge was glacier scoured rocky terrain with small patches of Southern Beech (*Nortofagus*) forest up to 300m. Above this alpine grassland extended to 400m and then bare rock to the snowline at 800m.

Species Recorded Cordillera Sarmiento 1998:-

Black Browed Albatross (*Diomedea melaophris*).

Seen in the Canal Kirke on the boat trip to and from Base Camp and not seen in the Canal of the Mountains.

Imperial Cormorant (*Phalacrocorax antriceps*).

Regular flights of six Imperial Cormorants were seen passing the Base Camp.

Olivaceous Cormorant (*Phalacrocorax olivaceous*).

Less common at base camp but seen regularly, usually alone.

Flightless Steamer Duck (*Tachyeres pteneres*).

One breeding pair on the fiord at base camp with three young, seen throughout our stay.

Kelp Goose (*Chloephaga hybrida*).

One pair resident throughout our stay at Base Camp.

Andean Condor (*Vultur gryphus*).

One pair and one juvenile seen soaring throughout our stay whenever the windspeed allowed them to be aloft.

Turkey Vulture (*Cathartes aura*)

One bird seen on occasions soaring over the top of the forest on the ridge at 300m.

Rufous Chested Dotterel (*Zonibyx modestus*).

One pair seen regularly at 300m on terrace just above forest line.

White Bellied Seedsnipe (*Attagis malouinus*).

Single birds and pairs seen on three occasions on ridge near to vegetation limit at 600m.

Chilean Skua (*Catharacta chilensis*).

Single birds seen over islets in fiord predated over nesting sites of *Larus dominicanus*.

Southern Black Backed Gull (*Larus dominicanus*).

Common on fiord nesting on islets near the terminal glacier.

Spine Tailed Rayadito (*Aphrastura spinicauda*).

Present at Base camp and in the forest near tree limit. At least two pairs, very noisy.

Dark Bellied Cinclodes (*Cinclodes patagonicus*).

One bird seen regularly at Base Camp and another regularly at 800m.

Between 28th October and the 2nd December 2000 Nick made his third trip to the Cordillera Sarmiento. The most striking difference between the bird observations on this trip and the ones two years earlier was the fact that our Base Camp was approximately five kilometres south of the previous ridge base camp. There was a marked increase in the species count presumably due to the increased forest cover and the better weather found in the slight rain shadow effect of the Cordillera.

Species Recorded Cordillera Sarmiento 2000:-

Andean Condor (*Vultur gryhus*).

We saw condors soaring on almost all calm days. Usually soaring over the grasslands between the forest and the permanent snowline. A group of four was the largest group seen at any one time.

Turkey Vulture (*Cathartes aura*).

A single bird was regularly seen hunting over the forest or shoreline.

Crested Caracara (*Polyborus plancus*).

This striking bird of prey was seen on two occasions both times at forest level.

Chimango Caracara (*Milvago chimango*).

A pair of the southern sub-species of this caracara were resident near Base Camp and were observed on several occasions.

Striated Caracara (*Phalcoboenus australis*).

One observation of this uncommon bird of prey was recorded. The bird was transiting the coast at Base Camp.

Kelp Goose (*Chloephaga hybrida*).

Two pairs of Kelp Goose were resident in the fiord waters adjacent to Base Camp. The spectacular sexual difference of this beautiful goose always creates interest. The male is pure white and the female is predominantly black.

Ashy Headed Goose (*Chloephaga poliocephala*).

A lone female visited the glacial flats and was observed over two days late in the trip.

Flightless Steamer Duck (*Tachyeres pteneres*).

Small groups of ducks were regularly seen on the fiord.

Ruddy Duck (*Oxyura jamaicensis*)

A small population of Ruddy Ducks were resident on the ponds at the terminal face of the glacier. They were seen on the fiord from time to time.

Kelp Gull (*Larus dominicanus*).

This gull which is found throughout the southern hemisphere was present on the fiord in small numbers and seen regularly.

South American Tern (*Sterna hirundinacea*).

Regularly spotted fishing in the fiord and attracting attention by its distinctive calls.

Black-Browed Albatross (*Diomedea melanophris*).

This beautiful albatross was often seen soaring over the fiord. Up to four at a time were observed.

Sooty Searwater (*Puffinus griseus*).

Occasional birds seen over the fiord throughout the trip.

Neotropic Cormorant (*Phalacrocorax olivaceus*) and Blue Eyed Cormorant (*P atriceps*).

Both these cormorants are regularly seen in large flying formations and sitting in the fiord. The Blue Eyed Cormorant was more numerous on the fiord with a large nesting colony at the mouth of the fiord approximately 10 kms south of the Base Camp.

Magallanic Oyster Catcher (*Heamotopus leucopodus*).

Several pairs were seen regularly on the coast adjacent to Base Camp.

House Wren (*Troglodytes aedon*).

This very small bird was seen in the undergrowth at Base camp.

Chilean Swallow (*Tachycineta leucopyga*).

The swallows had arrived from the north by the time of our arrival and hunted insects over the glacial flats.

Fire Eyed Diucon (*Pyrope pyrope*).

A resident population at Base camp and on the glacial flats.

Rufous Collared Sparrow (*Zonotrichia capensis*).

Common in the Base camp area.

Thorn-Tailed Ryadito (*Aphrastura spinicauda*).

The call of the rayadito is out of all proportion to this small forest bird. Heard regularly in the forest adjacent to the Base Camp.

Patagonian Sierra Finch (*Phrygilus patagonicus*).

Resident in the thick scrub adjoining the glacial flats.

Austral Thrush (*Turdus falcklandii*).

Seen regularly in scrub and on grass flats adjacent to the foreshore.

Austral Blackbird (*Curaeus curaeus*).

The Blackbird did not arrive at the Base Camp until the third week of November and was then seen regularly.

Dark Bellied Cinclodes (*Cinclodes patagonicus*).
Common around Base Camp and on the glacial flats.

Bar-Winged Cinclodes (*Cinclodes fuscus*).
We only saw this common bird once on the trip. A group of four were seen on the glacial ice at approximately 300m above sea level.

Green-Backed Firecrown (*Saphanoides galeritus*).
This minute iridescent humming bird seems so anomalous in this wild ice strewn region. One was observed feeding on nectar in the forest near Base Camp.

Austral Parakeet (*Enicognathus ferrugineus*).
Another seeming anomaly in this region. We saw and heard the parakeets on several occasions including a noisy fly past by four birds early in the trip.

Woodpecker.
A woodpecker was heard several times drumming in the forest but we could not get a sighting to confirm whether it was Magallenic (*campephilus magellanicus*) or a Striped (*Colaptes pitius*).

MAMMALS

There are very few mammals on the peninsular. When in Puerto Natales we heard rumours of the rare deer like Heumel being heard in the area but we certainly saw and heard nothing like this. On the 2000 trip our second base camp had the honour to host a small rat like creature. This beast provided hours of entertainment to Nick who built more and more impressive larders and food shelves out of its reach, to Niall who was intent on photographing it and to Chris who seemed to want to capture it.

David, being marginally saner, avoided rare mammals and preferred to have a limpet as his pet.

MEDICAL

As with most expeditions medical preparation is the key to success and all members discussed any personal medical problems with the team doctor prior to departure so that the small medical kit could be adapted to their needs. All were encouraged to have dental checks prior to departure and immunisations for tetanus, hepatitis A, polio and typhoid.

In the event of an accident in the Cordillera Sarmiento the main problem would be logistical in terms of arranging evacuation rather than medical but in our team we had one doctor with a specific interest in expedition and remote area medicine and two professional mountaineers who keep their skills honed by teaching remote area first aid.

Whilst on the hill each member carried a small first aid kit with supplies appropriate to their skill level. Normally this was a syringe, needle and one ampoule of analgesic, 48 hour antibiotic supply, Elastoplast strapping and one sterile pad. This only weighs a few ounces and can be used in the event of an accident until the base camp box arrives.

Patagonian peaks are so low that altitude problems are not medically relevant but there are problems specific to the region. Seasickness on the approach can make death by drowning seem an attractive option. I have personally tried preparations taken orally, rectally, by injection and by trans dermal patch for this dreaded affliction. On this trip I popped a tablet just before sailing. I was pleasantly out of my head for the first couple of hours and slept it off in the cabin feeling really mellow. If I had known that the sea was going to be a millpond with the best weather I had ever seen in the area I would have resisted the pill. I missed a magnificent sunrise and views of some of the world's most impressive scenery!

The biggest hole in the ozone layer is above Patagonia with sunburn and glare normally associated with higher ranges. Don't forget sunglasses, cream and hats, especially as one gets older and balder.

As a holder of the diploma in Travel Medicine I had heard of the risks of the Algae toxins released into the sea with "Red Tides". These are concentrated by filter feeders such as the muscles and can kill unsuspecting victims who fancy a fresh seafood meal. Since there was no evidence of a recent tide and no evidence of dead fish I prepared a magnificent paella on our first night. This was enjoyed by all and nobody noticed that I spent a long time letting mine cool before sampling my helping, secure in the knowledge that non of my companions were beginning to suffer from the neurotoxin. A few days later our French sailing friends informed us that the shipping forecast for the area had daily red tide warnings and that all fishing had been banned in the area. I was almost lynched. The situation was made worse by WJ's memory that on a previous trip I had greeted him with a cup of tea where I had got the sugar

cubes and the meta fuel muddled. His paranoia increased and the only fresh food we had from then on was sea celery collected off the beach.

Psychological problems can haunt expeditions where members have to come to terms with long periods of inactivity and the stress of the waiting game. One member developed a very close relationship with a limpet. He was frequently seen talking to his pet at low tide, delighting in the fact his friend always returned to the same rock. He is known to have read poetry to this "special friend" and took photos to have when he returned to Devon.

The final medical risk specific to Patagonia is that of bedsores caused by prolonged periods of immobility whilst stuck in tents during storms. Just keep moving your bum and invest in a good quality thermarest.

On this trip one member slipped on weed covered rocks whilst leaving base camp for an early morning crap and weather check and sustained a nasty bruise in his thigh. He kept as mobile as possible and needed regular Paracetamol. One member had his normal pile problems and another got constipated. This was out of character despite the relatively low fibre diet and he was followed up by his GP on return, since we are all reaching Saga age and changes such as this should no longer be ignored.

On previous trips to the area the only other medical problems encountered have been a fall after being blown over by the wind at relatively low altitude, one attack of the shits after drinking stagnant water out of a rock-pool on a ridge and another attack of the shits in a member who made a post expedition trip to the Paine National Park.

Prior to the trip each member was issued with a small personal medical kit containing items for minor ailments such a paracetamol, rash creams, and specific personal medication to save opening the base camp kit for minor ailments.

The expedition's main medical kit was stored in a sealed Tupperware container and weighed less than 1500g. It contained a few paracetamol, diclofenac anti inflammatory tablets, codeine phosphate tablets and ampoules of Nalbuphine as our analgesics. There was a 20ml ampoule of 2% Lignocaine local anaesthetic and two 20ml ampoules of Ketamine general anaesthetic in case of severe trauma requiring wound toilet or setting of a fracture. We carried injectable Magnapen with appropriate 2ml ampoules of saline as a dilutant. Other antibiotics were oral magnapen, oral metronidazole and oral ciprofloxacin. Diazepam was carried to cover any recovery reaction to the Ketamine. We had oral prednisolone and some laxative tablets. Tubes of combined steroid/antifungal cream were available and one tube of antibiotic eye ointment with two minims of topical local anaesthetic for eye use.

A very small surgical kit with suture materials and cavit dental filling was in our base camp kit. It also contained sufficient syringes and needles for the drugs working on the assumption that they can safely be reused on the same

patient on an expedition to save weight and bulk. I always take one urinary catheter since it can also be used to administer rectal fluids in an unconscious patient and I have once used one as a naso gastric tube in an unconscious patient in a remote area. Improvisation is often the key and IV needles have been used as suprapubic catheters on expeditions.

SANITATION

We carried Iodine crystals in 30ml strong glass bottles for water purification, using 10mls of saturated solution in a litre of suspect water, if indicated. This was not used since the water supply in most Chilean towns seem to be of good quality and at other times we were away from potential pollutants (except ourselves). Some method should be used if operating in more populated Paine region.

In a wet boggy cloudy environment such as the Cordillera Sarmiento the disposal of human faeces is a serious problem. It is a problem that is likely to increase as more people visit the area since there are only a limited number of dry sheltered campsites on the ridges that are often used for access to the peaks. It is vital that we protect the sources of drinking water for these camps for future visitors.

On all our visits we have decided not to take any toilet paper. The area is so damp that it would often get soggy before use and it would be very slow to rot after use. In many parts of the world anal washing is the norm and provide one washes ones hands thoroughly with soap and water after shitting it should present no health hazards. Above the snow line the washing and wiping cultures meet as snow is used for a truly pile tingling experience.

On all our visits when beach camping we have identified a small headland near the camp with a constant swift deep current and defecated direct into the sea. We are aware of the risks to the mussel beds but with the massive dilution factor and carefully noted current direction we thought this the most acceptable solution. In this ground digging a pit is impossible.

On the 2000 trip all our high camps were on glaciers where we crapped in a planned position downhill from the camp. At our intermediate boulder camp, which we used for a few nights whilst stocking our main high camp, we found a hole where a surface stream on the dry glacier plunged deep into the ice. It had natural foot placements, a built in flush system and a bidet!

Having studied various papers and books on the art of safe remote area shitting (14, 15) at the ridge sites in 1995 and 1998 we simply defecated on the rocky ground downhill from our tents and our water supply. The heavy rain broke the solid matter up and it then air dried over the rocks, was flushed and diluted. This gave me an excellent opportunity to make a photographic study of the degradation of human faeces in this wet cold environment. After three weeks our turds had virtually disappeared. We obviously have no data on the bacterial contamination caused and the subject is ripe for further study to aid future expeditions.

RUBBISH

The policy in this area is simple. If you carried it in carry it out. With totally organic combustible rubbish we have had end of expedition fires on the beach and then carried out any remnants. Obviously all tins, plastic and batteries must be carried out.

Our first base camp on the 2000 trip was at the site of an old fisherman's camp and was full of garbage including half rusted tins, discarded rotting clothes, rope and wire and two massive wet cell batteries. On arrival it stank. We spent several hours scouring the ground for rubbish and eventually filled up six sacs. When we made our rapid transfer to our second base camp we left all this rubbish at the top of the beach tucked into the forest but clearly visible. We returned at the end of the trip after clearing our second base camp but were unable to land due to the tide and sea conditions. Although the garbage was not ours and was left tidier than when we arrived we feel guilty about this. Hernan and Conrado are aware of its location it will be collected by another visiting group who care about the area.

After our Glacier camp was storm bound for eleven days we made a journey to evacuate all our possessions and rubbish. On sorting our tents at base camp we realised that two sets of poles and some wooden route stakes were missing. Despite our best efforts digging and probing we must have missed them under the three feet of snow. We humbly apologise to the Sarmiento Gods and hope that anybody who finds them can make use of them.

CONSERVATION

Twenty years ago Puerto Natales was a small frontier town. It is now an exciting centre for tourism and the market for treks to the Paine National Park is almost saturated. It is only natural that people's horizons will extend beyond the current bounds of the park. It is now much easier to reach the Cordillera Sarmiento than ever before and all that is needed is money for a boat and guide.

The area was first publicised in the National Geographic Magazine and all of us who have visited it must take some responsibility for its development. We have all accepted financial sponsorship to facilitate our trips, with the publicity that that entails. We have all written reports of our visits. The distribution of some of these reports has been limited to specialised libraries but any diligent mountain researcher can now get information on the range. Good Maps are available by mail order with a credit card.

The only protection offered to this unique area is its weather pattern which means that the majority of tourists who sail past on luxury cruises hardly ever get a glimpse of the mountains. Is this inhospitable climate enough to protect this natural gem that is so rich in plant life with its temperate jungle?

I don't know. Conservation is a cleft stick. If we take steps to protect the area economics will become involved and to raise the necessary capital publicity will be needed. Publicity will mean that people will come to see why the area needs to be protected from them. Visitors will want protection from the very climate that makes the area unique and protection may mean infrastructure, even if only in the form of raised wood platforms to pitch tents. It would be the thin end of the wedge. A wet climate has not been enough to guard the Milford Track on the South Island of New Zealand.

An infrastructure, however benign, means regulations and part of the beauty of the area to date has been the total lack of regulation.

Jack Miller and Hernan are struggling with these ideas. None of us know the answers. Watch Jack's website.

ACCOUNTS

Our 1995, summer 1998 and 2000 expeditions were all generously supported by the Mount Everest Foundation and the Sports Council of the UK, either via the British Mountaineering Club or the Welsh Sports Council. These bodies have enabled many climbers to undertake expeditions that would normally be beyond their financial means. We secured their grants and approval for our proposed 2000 trip late in 1999. Apart from the greatly appreciated financial support MEF approval brings with it a degree of acceptability and respectability. It can be used as an indication to potential commercial sponsors that the trip has been assessed by mountaineering peers and has been deemed a worthwhile exploratory mountaineering objective.

In 1999 we all agreed to enter the hard world of commercial sponsorship despite the obligations and tensions that it can bring. Niall embraced this challenge with gusto and, being slightly over 50, approached an old friend at Saga. None of us know exactly what he said to them but they kindly offered to underwrite the balance of the trip based on his calculations, which then had to take into account the extra equipment that we had to take with us to fulfil our obligations to update an expedition website for interested Saga members.

Right up to the moment we booked in at Heathrow Niall was doing interviews for Magazines, Radio and Newspapers, marketing the concept of an active Saga member. He certainly rose to the occasion.

His deal gave us an unconditional £5,000 with an extra £2,000 available if needed for the boat charter. He looked after these funds himself assuring the other members that we now had no worries and that he would inform us when we had to dip into our personal reserves. His accountancy was spot on since he paid for one last meal at a magnificent market restaurant in Santiago on the day before we flew home, using his final supply of dollars. I had never taken part in such a comfortable expedition.

KEY FINANCES

Income:

MEF Grant.....	£1,200.
Welsh Sport Council Grant.....	£1,400.
Two ERNIE wins on invested Grants!.....	£150.
Saga sponsorship.....	£5,000.
Saga Excess for boat charter.....	£2,000.

Expenditure:

Total on flights (paid to Saga).....	£2992.80.
Made up of £562 per person Iberia London/Santiago return, £57 taxes per person, £129 per person Santiago/Punta Arenas return.	
Excess on Flight ticket changes.....	\$400.
Taxis & Minibus.....	\$350.
Including return trip Punta Arenas/Puerto Natales.	
Penguin Boat Charter per day.....	\$750.
Hotels & Residencias.....	\$880.
Including Maria's at \$80 per night whole place. Hotels in Santiago & Puerto Natales \$60 per double room per night.	
Supermarket Food for mountains.....	\$800.
Hardwear (pots, pans, fuel containers, tarpaulins, cord, wellies, Cheap base camp waterproofs, marking wands etc).....	\$500
Films.....	£500.
Digital Slide duplication.....	£200.
Terra Nova Tent repairs and poles.....	£57.
Report costs and Postage.....	£200.
Postage, Phone costs (excluding satellite).....	£60
Insurance (BMC x 3 and proportion of year cover X 1)....	£700.

THANKS

Our Families:

Sally, Jenny & Tom Hillebrandt.

Lindsay, Rebecca & Jackie Banks.

"M" Smith.

Juliet & Jane Newman.

Supporters and Advisers:

Twid Turner.

Martin Doyle.

Iain Peter.

John Rees, British Consul.

Jack Miller.

Hernan Jofze.

Gerard & Colette Suaut, Yacht Hiva-OA.

Simon Littlejohn, Wildlife photographer.

Sponsors:

Saga Holidays, Roger De Haan, Gary Rylands, James Bach, Fenella Grey.

Mount Everest Foundation.

Welsh Sports Council.

Ernie.

Equipment:

Paramo, Briony Davis.

Terra Nova, Lilian Sullivan & Mike Kerry.

Callange.

USEFUL ADDRESSES.

Jack Miller, Box 220, Ridgeway, Colorado 81432, USA.

E Mail: Ejmiller@independence.net .

Web site: www.williwaw.org.so

Knowledge of Area.

Inaki San Vicente, c/ Juan Mari Altuma 8-4' DCH, Durango 48200, Spain.

E Mail: andikona@Yahoo.com

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Hernan Jofze, Concepto Indigo, Landrilleros 105, Puerto Natales, Chile.

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Fax: 00 56 61 410169.

E Mail: info@conceptoindigo.com

Web Site: www.conceptoindigo.co.cl

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speaks excellent English, climbing wall!**

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Tel: 00 56 61 412228.

Fax: 00 56 61 410645.

c/o E Mail: Kipatago@ctcinternet.cl

Charter of boat: Penguin. Knows Area. Speaks some English.

Fernando Viveros, Onas Aventura, Blanco Encalada, Puerto Natales, Chile.

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Fax: 00 56 61 414 349.

E Mail: onas@chileaustral.com

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Fax: 00 56 61 411797.

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E Mail: hostalfr.ancis001@chilenet.cl

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Manuel Gutierrez Nelra, Punta Arenas, Chile.

Tel: 00 56 61 218935.

Mobile: (09) 64449991876.

Owns and drives 9 seater minibus. Often based at Punta Arenas Airport.

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phased by large amounts of equipment. Very Reliable.

Maria Rivera, Hospedaje Nena, Boliviana 366, Punta Arenas, Chile.

Tel: 00 56 61 242411.

c/o E Mail: m.rivera@aim.com

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John Rees, British Consul, Casilla 327, Punta Arenas, Chile.

00 56 61 227221.

Always helpful. Sensible to "book in" and give him contact and insurance details in the UK for emergency use.

Ferreteria Marsan, Magallenes 774, Punta Arenas, Chile.

Tel: 00 56 61 226511.

Hardware shop. Aladdin's cave full of pots and pans, nylon cord, fuel containers, axes, shovels, wellies, cheap over trousers and jackets etc. Most importantly they always seem to have Benzena Blanca and other fuels for stoves (which is often not available in Puerto Natales).

Instituto Geografico Militar, Salon de Ventas, Dieciocho 369, Santiago, Chile.

Tel: 00 56 2 4606863

Fax: 00 56 2 4608294

E Mail: ventas@igm.cl

Web Site: www.igm.cl

Sale of all military maps of Chile. Ana Maria Bulichich Mac Donald is particularly helpful but only speaks a little English. They prefer communication by Fax. Accept major credit cards. Open normal office hours and well worth a visit. 200m north of Toesca Station on Metro.

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THE LADY IN WHITE.

**The finger fiord points North
Mapped coast contours yield to
Terra Incognita.**

**Our visit irrelevant as snowflakes.....
This landscape wind-scoured
By Millenia.**

**Rain comes and goes, with the
Sleet and the snow, but only the wind
Is never ending.**

**And above it all, the Lady in White
Her seracs gathered tightly to the
Folds of her dress, severe, virginal....
La Dama Blanca.**

**Niall Washington-Jones,
24th January 1998.
Cordillera Sarmiento.
During another storm.**