Report to

The Explorers Club

Completion of Project:

Spruce Trees Growing North of Treeline in Alaska?

- Investigation on Bob Marshall's timberline experiment since 1939 -

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Spruce Trees Growing North of Treeline in Alaska?
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It was after a rainy night of August 5th, 1968, when Sam Wright and his wife were making their way from Summit Lake towards Barrenland Creek in the Brooks Range in northern Alaska. They were searching for an experimental plot Bob Marshall, the early wilderness advocate, had established in 1939. He had sown spruce seeds north of treeline, testing his hypothesis that time since last glaciation, not unfavorable environmental conditions, were the cause for the position of the latitudinal treeline in the Brooks Range. In 1939 Marshall wrote in his journal:

*We stopped for lunch on the edge of foaming white water...It was fascinating in its barrenness so we called it Barrenland Creek. After lunch I repeated the experiment I had tried with negative results nine years before - the experiment to test my theory that lack of time, not unfavorable climatic conditions had prevented the progress of the northern timberline... (Marshall, 1956)*

But Marshall had died only four months after this visit in the Brooks Range, so the years had passed by and his experiment had gradually slipped into darkness until Sam Wright and his wife Billie made their way up into the Brooks Range in search of the plots. On this 5th of August in 1968 Sam wrote:

*By seven p.m., rimming up Barrenland Creek's north side, we looked down on the tree planting site where Bob Marshall's stakes still marked his plot after 29 years of arctic freeze and break-up... (Wright, 1988).*

But no trees had grown, so the next day Sam and Billie planted 100 four-year old spruce seedlings, given to them by Les Viereck from the University of Alaska Fairbanks. I stumbled across these facts in Sam Wright's book "Koviashuvik", a tale of his and his wife's life in the Brooks Range. Coincidentally at that time I started my Ph.D. at the University of Alaska Fairbanks on the subject of the northern treeline. I followed up on these facts and found no evidence that anyone had visited the plots since 1968 to see how the experiment had worked out. I had planned an expedition with two friends and fellow researchers and so there we were, up in the Brooks Range.

On a grey day we set out in search of the plots. The rain of the earlier days had receded, but snow was still melting on the high flanks of the mountains. We reached the North Fork of the Koyukuk around 10a.m. in the morning, right at its confluence with Barrenland Creek below the canyon. Water shot out of the shear cliffs and we searched for a while climbing upstream, retracing our steps looking for a safe place to cross. We agreed on a spot right above Barrenland Creek and since my legs were the longest I went first into the roaring water. It was cold and high, but possible to cross. With a little luck we all made it safely and then hastily put our pants, socks and shoes back on, since a freezing wind was blowing out of the canyon. After a steep climb with hands and feet we reached the flatter parts of Barrenland Creek and marched on westward, following the creek. The valley stretched treeless and empty along rockslides and bare flanks of Twoprong Mountain to the south. Higher and higher up, mile for mile we went, but found nothing. We reached the spot were the valley bend to the north and we looked into a mountain cul de sac. With binoculars we scanned the remains of the Barrenland Creek valley, but our hearts sank by the minutes. The plots might have washed out, the trees might have died, a rockslide might have buryed all that was left.
But then, high above on the western wall stood 21 Dall sheep. White and curious they looked down on us and I felt like an intruder into a land I did not belong. We took it as a token of good luck, since Sam had written in his journal just before finding the plot:

...and I looked up at the mountainside where 17 Dall sheep stood...

We turned around and followed the Creek downstream. And then it happened. I looked back to a plateau we already had looked at and hesitated. There was something sticking out. Running back I saw three willow sticks, white and weathered, each in a pile of stone. I scrambled down the bank and knelt next to one of the plots Bob Marshall had established in 1939. And there they were, two spruce trees were growing 17 miles north of treeline. They were tiny! Planted when they were 4 years old in 1968 made them 37 years old - and they were not taller than 25 cm. But there were only two. Two trees out of one hundred planted! We sat in silence around the marks of an early treeline experiment far off in the Brooks Range, begun 62 years before by Bob Marshall. To the exact day and hour 33 years before, these little trees were planted by Sam Wright and had begun their life in the harsh conditions of the northern Brooks Range. And ninety-eight of their colleagues had not survived.

In one of the stone piles we found this message, hidden in a ziplock bag and old peanut can: 
Bob Marshall began this experiment 50 years ago 1939. His seeds of white spruce did not grow. Sam + Billie Wright re-planted this plot in 1968 with 4yr. old seedlings of white spruce. Today is Aug. 1, 1989, Donna and Sam Wright returned to see if the seedlings grew. We found 5 alive with very little growth after 21 years. One we could see dead...

So Sam Wright himself had come back at the 50th anniversary of Marshall's experiment. We photographed the trees, the plot, each other, the message, the surrounding and smiled. We had finally found them. For me, a 3 year long quest had ended. I had read about the trees in 1998, had tried to contact Sam Wright with no success. Then I had moved to Fairbanks, where I met Les Viereck, who had given the seedlings to Sam Wright and who still works at the University of Alaska today. He had provided me with Sam's account of his trip. In the fall of 2000 I had attempted to find the plots for the first time, alone. Only to be snowed in and find the passes to the south unpassable. Back then I had hiked out to the north before the snows turned the Brooks Range into the white still wilderness it is in winter. This summer, the first attempt a week before had failed in front of a gully blocking our pass on the western side of the North Fork Canyon. But now, at the third try, we were here, at the same spot and the same day, 33 years after Sam Wright had replanted Bob Marshall's old plots. Our thoughts flew back to the man who had traveled extensively in this region early in this century. The exploratory saga of Bob Marshall began in 1929 and lasted for a short decade. On several trips in the Koyukuk country he had mapped the area, named numerous mountains, valleys, rivers, always searching for the continental divide and the view into the northern lands. He named the mountain portal between Boreal Mountain and Frigid Crags, a name now well known as the "Gates of the Arctic". His work and perceptions over an intense decade before his early death influenced the development of wilderness preservation ideals in America and the creation of the Gates of the Arctic National Park and Preserve (www.nps.gov/gaar/keyvalu.htm).

The sun was already down and a chill wind was blowing up from the east when we packed our gear and looked back at those two spruce trees. Forlorn and lonesome they stood in front of a great gray wall. Witnesses of an early explorer, a scientific question and our adventure. But more than that they stood silent in the vast emptiness of a wild and powerful place, which is know today as the Gates of the Arctic National Park and Preserve in the Brooks Range.
Literature:


The explorers club. Songs drenched in lush melodies and brightly colored arrangements giving them a timeless feel. To sing and be born again. The Explorers Club: Are an American pop rock band originally from the coast of South Carolina, United States. They feature a rotating cast of musicians led by Jason Brewer, whose debut album was released by Dead Oceans. The music of their first album is heavily influenced by the vocal harmony styles and production of The Beach Boys. They are also influenced by classic rock and roll arrangements as made popular by The Beatles, Chuck Berry, Phil Spector, The Zombies, The Monkees and The Byrds. Songs in album The Explorers Club - The Explorers Club (2020). 1. The Explorers Club - Ruby. 296. 02:49 320 öD±/Á. 2. The Explorers Club - One Drop Of Rain. 234. 03:03 320 öD±/Á. 3. The Explorers Club - Love So Fine. 158. 02:38 320 öD±/Á. 4. The Explorers Club - Mystery. 113. 02:55 320 öD±/Á. 5. The Explorers Club - Don't Cry. 107. 02:59 320 öD±/Á. 6. The Explorers Club - It's Me. 87. The Explorers Club. To Sing And Be Born Again. 2020. Indie Rock. 6/20/2020 7.75. The Explorers. Explorers. 1985. Pop-Rock New Wave. Purchase Our Special "The Explorers Club" Shirt (Design Coming Soon!!!), as well as our New Self Titled album in Both CD and LP format includes unlimited streaming of The Explorers Club (originals album) via the free Bandcamp app, plus high-quality download in MP3, FLAC and more. Sold Out. CD And Album Bundle. Record/Vinyl + Digital Album. Includes ALL formats (LP & CD) of The Explorers Club's "Self Titled" album at our special bundled price includes unlimited streaming of The Explorers Club (originals album) The Explorers Club promotes the scientific exploration of land, sea, air, and space by supporting research and education in the physical, natural and biological sciences. News. Richard Garriott to serve as Explorers Club™s 45th President; Jeff Bezos named as Honorary Chair; Buzz Aldrin named as Honorary President. We are proud to announce that Richard Garriott LM™98 has been elected as the Club™s 45th President.