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Harry E. Burke and John M. Miller, Pioneers in Western Forest Entomology

Boyd E. Wickman

John M. Miller, 1882-1952

Harry E. Burke, 1878-1963

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Abstract

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This history was compiled from the memoirs, diaries, and other personal documents of the two forest entomologists in charge of the first forest insect laboratories on the west coast. It traces the lives of the two pioneers from 1902 to 1952 as they pursued their careers in the USDA Bureau of Entomology, Division of Forest Insect Investigations. Cooperative bark beetle control projects with the USDA Forest Service, Park Service, and private timber owners guided much of their early activities. Later, when the laboratories were located on university campuses, cooperative research was undertaken with Forest Service Research Stations. The focus shifted to more basic research and, particularly, studies on the silvicultural management of bark beetle populations.

Keywords: History, forest entomology, bark beetles, Forest Service, Bureau of Entomology, National Parks, insect control projects, cone and seed insects, forest fire and insects, ponderosa pine, Jeffrey pine, sugar pine, lodgepole pine, Sitka spruce.

Preface

Dr. H.E. Burke was the first forest entomologist to be hired and assigned to study insects on the west coast. He was appointed to the Bureau of Forestry in October 1902 as an assistant to Dr. A.D. Hopkins, Chief of Forest Insect Investigations. At the request of Hopkins, John Miller joined the Bureau of Entomology (the Forest Insect Investigations unit had transferred to the Bureau in 1904) in 1911 after several years as a forest ranger in the U.S. Forest Service in California. These men were the first university graduates trained in forest entomology to work under A.D. Hopkins on the west coast, but many in the forest entomology profession are barely aware of their histories or contributions to the science of forest entomology.

This biography of the two pioneers came about because of some timely correspondence in 2001. David Pratt, a grandson of H.E. Burke, requested some information from Dean John Brown, Washington State University. The university had just honored Burke as its first graduate in entomology. Dr. Brown referred David to me and other forest entomologists, starting a chain of events. I provided David an early photograph of Burke and his unpublished memoir. David then provided me with a genealogy of the Burke family and suggested I write to Burke's two surviving daughters: Dorothy Burke Walker, born in 1914, and Janet Burke Eglington, born in 1920. They both enthusiastically responded to my inquiries for information about their father with unpublished material, short vignettes by other Burke children about life with their father, and some family photographs.

Daughter Janet carried on an invaluable correspondence with me from 2002 through 2004. She provided her memories of family lore and events, has been my sounding board, and inspired me to keep moving on this project. Most importantly, she introduced me to her childhood friend Betty Miller Moore via correspondence. Betty is the daughter of John M. Miller, the second forest entomologist on the scene in this account. Through Betty I learned

that John Miller had kept diaries of his professional duties from 1907 until his retirement in 1951. The diaries were in the possession of Betty's niece, Susan Miller Lowenkron, who graciously entrusted Miller's diaries to me for research and eventual archiving. She also mentioned many letters that her grandfather had written to his wife while in the field with the USDA Forest Service and the Bureau of Entomology. We all recognized the importance of these letters because Miller had left no biographical material about himself. Betty and Susan began the painstaking job of typing and organizing these letters by date and providing me with pertinent copies.

At this point I felt that both men deserved a published biography of their lives and contributions to the science of forest entomology. When I was employed by the Forest Insect Laboratory (Bureau of Entomology and Plant Quarantine) and a student at the University of California, Berkeley, in 1948, I assembled a small number of Burke's memoirs for limited distribution. I kept one of these original copies for 54 years thinking someday I would try to formally publish it. I got as far as publishing, as editor, only a small part of Burke's memoirs.[1]

My connection to John Miller was slightly different. I actually worked for Miller as a student, sometimes summarizing his field data at the Berkeley office. Miller was in charge of the Forest Insect Investigations Laboratory of the Bureau of Entomology for many years. In the summer of 1951, shortly before he retired, he assigned me to a detail on the large Colorado Spruce Beetle Project as a survey crew leader. At that point, I had taken several entomology courses, but my major was education. I had worked as a student assistant in the field and office since 1948, and he evidently felt I could do the job. This assignment changed my life. Most of the men detailed to the Spruce Beetle Project from the Bureau of Entomology were graduate entomologists with considerable experience. Miller's trust in me affected me deeply. I must have passed muster because when I returned to Berkeley, I was assigned increasingly responsible jobs. Of course, after that, John Miller was my hero. I immediately changed my major to forest entomology in the fall of 1951.

I vowed to someday write a biography of Miller. However, sources were rare because he just didn't write anything about himself. The closest I came to his story was an article written in 1987 about the Ashland Field Station, which he led from 1912 to 1924.[2]

Combining the story of these two pioneer entomologists makes sense beyond my personal bias. Miller came to the Bureau of Entomology 9 years after Burke's appointment, but from the moment of his arrival he was given managerial responsibilities by A.D. Hopkins, Chief of Forest Insect Investigations; for all practical purposes, Miller was coleader, with Burke, of the bureau laboratories and field stations until 1923 when he was placed in charge of all forest insect investigations on the Pacific coast. Burke and Miller were gentlemen of the highest order. I have yet to find a critical comment from either man

[1] Burke, H.E., Wickman, B.E. 1990. Northeastern Oregon bark beetle control project 1910-11. Gen. Tech. Rep. PNW-GTR-249. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

[2] Wickman, B.E. 1987. Early forest insect research in the Pacific Northwest: Ashland Field Station, 1912-1925. Oregon Historical Quarterly. Spring: 27-48.

about the competitive leadership situation that was forced upon them by Hopkins, or about their brilliant, but sometimes cantankerous, boss in Washington, D.C.

Accounts from both families indicate that Burke and Miller were more than colleagues. As friends, they shared family camping trips and social events.

My approach to writing these biographies was to use, as much as possible, the words of the two men, by using direct quotes and passages from autobiographies, family letters, diaries, official correspondence, published and unpublished reports, oral histories, and the short-lived "Forest Insect Newsletter."[3] Burke and Miller descendants were also most generous with their recollections that helped tie the personal family lore to the official activities.

My contributions were minimal and involved organizing the text, locating photographs, and providing additional historical detail or interpretations when warranted. All errors concerning dates or interpretation are absolutely mine. I hope future generations of historians will give me some latitude, because this is not strictly a history of forest entomology in the West. It is meant to record the human side of two really fine gentlemen and outstanding scientists. I have tried to weave some of the significant historical events into the story to indicate how these pioneers in a new forest science influenced our current thinking.

I hope I have succeeded in making their colorful lives and times a good read.

[3] The newsletter name changed several times. See "Other Sources" section.

Contents

Chapter 1: Burke's Childhood and Education

An Indian attack in Paradise Valley, Nevada, during the summer of 1878 (the Bannock Indian War) had important consequences for the future of forest entomology in the Western United States. The danger and upheaval of the attack caused a young homesteader, his wife, and 6-week-old baby to pull up stakes and head for a safer more settled clime. Thus began the life of Harry Eugene Burke, who might have grown up to be a Nevada farmer rather than an eminent pioneer in Western forest entomology. Here is Burke's memory of those days from his unpublished autobiography.[1]

> I was born May 19, 1878 in the old Camp Scott buildings at Paradise Valley (North of Winnemucca), Nevada. My ancestry was typically American. The Father, Harry Daniel Burke, was an emigrant from Hanover, Germany, who had served through four years of the "war between the states" as a cavalryman in the Northern Army. His father and several older brothers had been killed fighting the Prussians in 1848. His mother died soon afterwards and he moved to America in 1859. After his discharge from the army he moved west and was growing wheat near Chico, California, when in 1876 he met Sarah Eugonia Jones who was teaching school near Chico. They were married in 1877 at Mt.View, California and soon after left for Nevada in search for more and better land. They finally reached Paradise Valley where I was born.
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> The Jones family moved from Wales to North Carolina in 1735 and Sarah Eugonia's grandfather and several uncles fought in the American Revolution with Washington. Her father was captain of an artillery company on the Southern side during the "war between the states." Before the war and afterwards he was a Methodist minister for sixty years as well as a storekeeper and newspaper man. Because of some hot editorials during the war, he was much sought after by some of Sherman's men when they marched through Georgia to the sea. Parson Jones, however, managed to keep out of the way of the Yankees and soon after the war was over migrated to Missouri with his family. California was the promised land, so on to California they went in the 1870's.
>
> I was six weeks old when the Paiute Indians made a raid through the Paradise Valley and the Burkes moved back to California and settled near Mayfield in the Santa Clara Valley. [Insert by daughter Claire –"I remember hearing tales of this flight in a spring wagon. Mother and infant were bounced out, but Sarah Eugonia held the baby so high that even his long white dress did not get in the mud."] After three years, in 1881, the family, now composed of two sons and the parents still in quest for better land, moved to what was then Washington Territory and settled in the White River Valley south of Seattle.
>
> In 1881, due to illness of my father, the family now including two more sons and a daughter, returned to California. Father died in 1888. In 1891 the family, with a new stepfather, Alford C. Baker, returned to Washington."
>
> By the spring of 1897, I had managed to spend enough time in the public schools of Washington and California to graduate with the first high school class in Kent, Washington.
>
> 1897 is noted in northwestern history as the year of the great gold discovery in Alaska. Then nineteen, I was offered the choice of joining the gold rush to Alaska or of being the first King County free scholar to attend the then rather new Washington Agricultural College and School of Science at Pullman, Washington. Carrying 100 lb. sacks of flour over White Pass on my back in the snow did not appeal to me, so I accepted the scholarship and enrolled at the college (now Washington State University) in September, 1897, as a senior preparatory student.
>
> The first year, due to the Alaskan influence, my major study was mining engineering. The second year it was economic science and history with law the final objective. But one fine day during the spring of the second year, I went on a collecting trip with a class-mate who was studying insects. That trip opened up new visions and solved the problem of choosing a life's work. For the third and final time a major was chosen, this time it was Zoology.
>
> After five years at Washington State, I graduated June 19, 1902 with high honors and the degree of B.S. in Zoology.

[1] H.E. Burke prepared an autobiography, *My Recollections of the First Years in Forest Entomology* in 1946 at the urging of his colleagues J.M. Miller and F.P. Keen. The intention was to publish the manuscript after it was carefully edited by Miller. Unfortunately this never happened. It remained an unpublished report widely referred to by forest entomologists. The Burke family provided me with an early draft of Burke's autobiography that Miller deleted from the official report. This heretofore unknown draft is the basis for the first chapter.

While at Washington State, I achieved a number of political and other student honors. Among these were president of the class of 1902 during the freshman year, treasurer of the class the last three years, president of the Websterian Debating Society, lieutenant in the cadet corps, member of the board of athletic control, business manager of the college yearbook (Chinook 1902), and member of the college track team with points against Washington, Idaho and Whitman in shot and discus.

During the summer of 1900 I was assistant at the Washington State Oyster Experiment Station, Keyport, and during the summer of 1901, laboratory assistant in Entomology at Washington State.

Also while at Washington State, I made my first contact with forest insects. I became acquainted with J.L. Webb who was studying forest insects under the direction of Dr. A.D. Hopkins, then at the University of West Virginia, and made several trips with Webb in the forests near Moscow, Idaho collecting various insects from western pine beetle-killed yellow pine.

Upon my graduation, I received an appointment as special field agent with the Division of Entomology, U.S. Department of Agriculture and spent the months of July, August and September in 1902 in Boise, Idaho carrying on investigations of codling moth life history and control under the direction of C.B. Simpson.

While at Boise, I received a letter from J.L. Webb who was then in the Black Hills of South Dakota working on the Black Hills beetle, saying that Dr. Hopkins was looking for an assistant in forest insect investigations just starting in the Division of Entomology and that Webb was recommending me. A letter was also received from C.V. Piper, professor of Zoology and Botany at Washington State, saying that he was recommending me for the job with Hopkins. I therefore applied and was appointed a special field agent in the Division to take effect October 1, 1902 and ordered to report to Webb at Elmore, South Dakota.

The month of October was spent with Webb learning the forest insects and assisting in taking the life history and in experiments to determine if it were possible to trap the Black Hills beetle by girdling and falling trees in various ways and at various times of the year. Rocky Mountain yellow pine were back girdled, belt girdled, peel girdled and fallen at regular intervals.

On November 1, 1902 I was appointed as assistant forest expert in the Bureau of Forestry and ordered to Washington to work on forest insects under the supervision of Dr. Hopkins.

The winter of 1902-1903 was spent working on the insects collected in the Black Hills by Webb and me. The adults were classified to species as far as possible and all material was filed in collection and the notes catalogued.[2]

When his father died, Burke was only 10 years old. Family lore has recorded that his mother struggled to keep the farm going, raise a large family, and all the while instill the importance of education in her children. When she remarried in 1891 and the family returned to Washington state, the die was cast for Harry to receive his education in public schools and Washington State College (now Washington State University). His choice of college was perhaps a strong influence on his chosen vocation because the campus was close to forests, and while there he met J.L. Webb, a pioneer forest entomologist who recommended him to A.D. Hopkins for a professional position as a forest entomologist. Burke and Webb remained lifelong friends, and Burke became the first entomologist assigned to the Pacific Slope Region by Hopkins.

The next three chapters are reproduced verbatim from Burke's "My Recollections" report and include photographs as presented by Burke (1946). In his recollections, Burke introduced A.D. Hopkins, who was considered the father of forest entomology.

[2] Unpublished manuscript from the descendants of H.E.B. Biographies of the men connected with the Northeastern Oregon Control Project, Bureau of Entomology, 2. Harry Eugene Burke, an Autobiography.

Chapter 2: A.D. Hopkins and How Forest Insect Investigations Were Started

At its beginning, forest entomology in the United States evolved mostly around one man, Andrew Delmar Hopkins (1857-1948). His illustrious career began, not with a formal education in the subject, but as a young farm boy intensely interested in forest insects and willing to work for $1 per day. Hopkins' life has been described by Rowher (1950), Berisford (1991), and Furniss (1997b). The story of Hopkins and his relationship to Burke is best told in the latter's own words (Burke 1946).

> Dr. A.D. Hopkins was the first chief of the Division of Forest Insect Investigations and directed this work in the Bureau of Entomology from 1902-1923. Previous to that he had been: farmer, 1877-1890; entomologist, West Virginia Experiment Station, 1890-1902 and vice-director, 1897-1902; Professor of Economic Entomology, University of West Virginia, 1896-1902; author of many bulletins on insects and holder of many scientific honors. He has often been called the Father of Forest Entomology in America.
>
> Hopkins' experience in western forest areas was limited to brief trips. In 1899 he made a trip out of Washington, D.C., lasting from April 9 to June 17, in which he visited areas in California, Oregon, Washington and Idaho, which was quite remarkable in its results. In this short period he collected 4,363 specimens and took 760 notes. Later developments showed that he had uncovered and correctly interpreted most of the important forest insect problems of the region. As a result of this trip, he published "A Preliminary Report of the Insect Enemies of Forests in the Northwest." In 1902, 1903, 1904 and 1905 he made trips into the Black Hills, Pacific, Colorado and southwestern areas. In 1911 he visited the Northeastern Oregon Project and areas in northern California. His last trip to the west was made in 1915 when he made the rounds of western field stations.
>
> To start at the beginning we have to go back to the Hatch Act passed by Congress in 1887. This law appropriated money for the organization of the State Agricultural Experiment Stations. Most of these stations soon established departments of entomology. The West Virginia Station at the University of West Virginia, Morgantown, decided to establish such a department in 1890. There were two applications for the position of entomologist. One wanted a salary of $2,000 (real money in 1890) and a secretary. The other, A.D. Hopkins, offered to do the work for nothing if he were allowed to live on his farm. Hopkins was given the position and started on his official entomological career.
>
> On a trip made through the state of West Virginia in September 1890 Hopkins found great quantities of dead spruce in Randolph County. An examination indicated that bark beetles were the cause. This discovery caused Hopkins to make further investigations in the forests of the State, which started him on the road to becoming the Father of Forest Entomology in the United States. A trip was made to Europe in 1892 to collect specimens of the European bark beetle destroyer, *Clerus* (*Thanasimus*) *formicarius L.*, for introduction in the forests of West Virginia to prey on the southern pine beetle.
>
> As the leading authority in the United States on forest entomology, Hopkins was chosen by the Division of Entomology, U.S. Department of Agriculture, to make an investigation of the Pacific Coast forests during the summer of 1899. On this trip he found the western pine beetle and the mountain pine beetles killing numbers of trees in the pine forests of California, Oregon, Washington and Idaho.
>
> One stop on the trip was at the Washington State College at Pullman. Here Hopkins visited G.V. Piper, entomologist of the Washington Experiment Station. Together they made a trip into the pine forests of western Idaho to study various insects, one of these the western pine beetle.
>
> As a result of this trip, Piper induced one of his students, J.L. Webb, to take up forest insects as a major. Webb, therefore, was probably the first college student of forest insects in the United States. Webb collected forest insects in western Idaho during 1900 and 1901 and in studying them corresponded with Hopkins.
>
> In 1901 the Chief of the Bureau of Forestry of the Philippines requested Gifford Pinchot, Chief of the Bureau of Forestry of the U.S. Department of Agriculture, to get him a forest entomologist. Pinchot passed the request on to Hopkins who replied there were none, but he would train one if given time. This suggestion was followed and Webb, the only known student, was appointed a field assistant in the Bureau of Forestry in the fall of 1901 and sent to Hopkins at the University of

West Virginia to train for the Philippine position. As a side light, it should be said that Webb did not know that a field assistant was supposed to have expenses, so he worked the winter of 1901 at $25 per month and subsisted himself.

The appointment of Webb by the Department of Agriculture to work on insects under Hopkins stirred [L.O.] Howard, Chief of the Division of Entomology, into action. He started to work toward the establishment of an Office of Forest Insect Investigations in the Division.

In the meantime the Black Hills Beetle had started its destructive work in the yellow pine forests of the Black Hills of South Dakota and Wyoming.

In May 1902 Webb was appointed an Assistant Forest Expert in the Bureau of Forestry and sent to the Black Hills to investigate the trouble under the direction of Hopkins, who was to be appointed July 1 Chief of the new Office of Forest Insect Investigations in the Division of Entomology.

Since Webb was expected to take the Philippine position, an assistant to take his place was needed. I had collected some with Webb in 1900 and 1901 and was recommended by him for this appointment. Being already in the Division of Entomology on a three-month appointment to work on the codling moth at Boise, Idaho, I was appointed October 1, 1902 as Special Field Agent of the Division, to investigate the damage to forests and forest trees by insects and was sent to the Black Hills to receive training from Webb. On November 1, 1902, I was appointed an Assistant Forest Expert in the Bureau of Forestry and ordered to Washington to work on forest insects under Hopkins, following Webb in by about a week.

The Office of Forest Insect Investigations therefore completed its first six months with Dr. A.D. Hopkins, an appointee of the Division of Entomology, in charge with J.L. Webb and myself, appointees of the Bureau of Forestry, as assistants. During the spring of 1903, W.F. Fiske, Assistant State Entomologist of Georgia, was appointed a special field agent in the Division of Entomology and assigned to work on forest insects under Dr. Hopkins. All expenses for the work were paid by the Bureau of Forestry.

This organization continued until July 1, 1904, when the Division of Entomology became a Bureau and Webb and I were transferred from the Bureau of Forestry to the Bureau of Entomology. Webb did, however, spend the field season of 1903 in the Philippines as an appointee of the Philippine Bureau of Science.

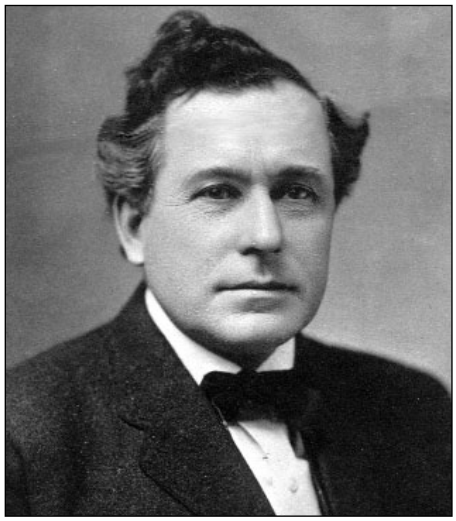
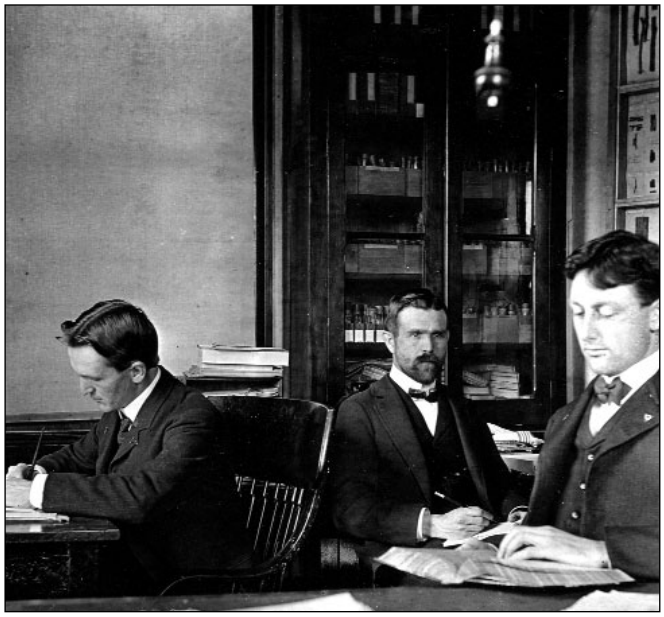


Figure 1—Andrew Delmar Hopkins (1857-1948) Washington, D.C., March 1909.

It was during the winter of 1902-03 that Dr. Hopkins suggested to Webb and myself that each of us specializes on some important family of forest insects as Hopkins had specialized on the Scolytidae. Webb selected the Cerambycidae and I the Buprestidae. Dr. Hopkins also submitted a plan for dividing the United States into four major forest areas for forest insect fieldwork with a man specializing on the insect problems in each area. The areas suggested were the Eastern, the Southern, the Rocky Mountains, and the Pacific Coast. Webb took the Rocky Mountain region due to his experience with the Black Hills beetle and in the yellow pine forests of Idaho. I selected the Pacific Coast mainly because I was from that section and already familiar with some of the conditions [figs. 1 through 3].

The epidemic of the Black Hills beetle, which ran from about 1898 to 1907 in South Dakota, was the first case of western bark beetle depredations to receive serious attention from foresters. It resulted in the heavy killing of ponderosa pine. The Black Hills outbreak so impressed Gifford Pinchot that he took aggressive action which finally resulted in the establishment of the Division of Forest Insect Investigations (Furniss 1997a).

As a result of the studies that were made in the Black Hills, control methods were devised and a limited amount of control work was done. The epidemic soon subsided, however, and no field stations were set up for continued studies in this area.



H.E. Burke, PSW

Figure 2—The first office occupied by forest entomologists in the old insectary, U.S. Department of Agriculture, Washington, D.C., December 1902. J.L. Webb (left), Lee, and H.E. Burke. Lee was the first stenographer and clerk employed by Hopkins. He worked for one winter only and was replaced by E.C. Wood.

Most of the major forest insect problems of the era were apparently in the western portion of the United States. Burke's appointment made him, at the time, the only formally trained entomologist in the Bureau of Entomology in the west coast. The seat of power was, of course, in Washington, D.C., so when Hopkins was appointed Chief of Forest Insect Investigation in the U.S. Department of Agriculture, he maintained his office there. Even though he was far from the scene of action (a train trip from Washington, D.C., to California for instance took several days), he still managed periodic field trips to the West. He also maintained tight control over his field assistants and, in the early years at least, few decisions were made in the field without telegraphic or postal consultations with Chief Hopkins.[1] This micromanaging from afar eventually affected the morale of the field men and probably the speed at which some projects could proceed. This would play a role in the careers of both Burke and Miller.

John Miller's arrival in the Bureau of Entomology Forest Insect Investigations occurred about 9 years (1911)

H.E. Burke, PSW

Figure 3—Pioneer forest entomologists and forest pathologists, Black Hills, South Dakota, July 1902. (Left to right) J.L. Webb, assistant forest expert; Dr. Hermann VonSchrenk, in charge of forest pathology, Bureau of Plant Industry; Burns, assistant in forest pathology; Dr. A.D. Hopkins, in charge of forest insect investigation.

after Burke's, but his professional background with the then newly formed U.S. Forest Service from 1907 to 1911 is a fascinating story in itself. In those early years Miller kept a fairly detailed diary and wrote dozens of letters to his soon-to-be wife describing the duties of a pioneer Forest Service employee, but first, Burke's autobiography continues with an account of his first forest insect investigations on the west coast.

[1] Correspondence between Burke and Hopkins between 1910 and 1911 in my possession.

Chapter 3: Exploratory Work in Western Forests, 1903-1910

Burke's autobiography continues with brief accounts of his fieldwork in Washington, Oregon, and California. His apparent independence to travel about during these first 7 years was likely because Burke had no responsibilities for insect control decisions, project management, or supervision. He mainly collected insects, made field notes on their life histories, and returned to Washington, D.C., each winter to write reports and prepare his specimens. This fit right in with Hopkins' plan of learning as much as possible about forest insects in the United States, having specimens available for reference, and publishing the results of investigations. Hopkins sometimes was less than generous with his authorship and credit for illustrations. And while his men were in Washington he was no doubt sizing them up for future responsibilities and indoctrinating them in his philosophies of insect control, for with Hopkins the only good bark beetle was a dead bark beetle.

These early years seemed to have influenced Burke in another direction. He truly enjoyed collecting specimens and studying the biology and life histories of insects new to science. This probably resulted in some of Burke's later career choices.

Now back to Burke's autobiography.

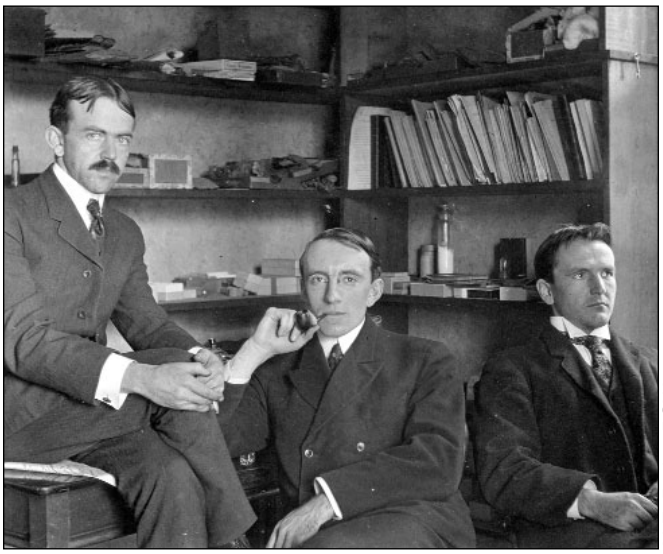
> In April 1903 I left Washington with orders to proceed to the Grays Harbor Country of western Washington and establish a station whose field of operation would be Washington, Oregon and California. The main projects were to determine (1) the span worm that had defoliated large areas of hemlock and spruce about 1891, (2) the maggot or other insect that causes the injury to living hemlock and produces a defect in the wood known as black check, (3) the bark weevils that cause damage to reproduction of spruce, fir and other conifers and (4) the bark and wood-boring insects that damage Douglas-fir.
>
> The station was established at Hoquiam, Washington. About all that could be found out about the span worm was that it had occurred a number of years before and had done a lot of damage. Some old snags were found in the Hoquiam River basin that were said to be the remains of trees killed by the span worm. The hemlock bark maggot was found and cages were placed on the trees to rear the adults. A similar bark maggot was found in the bark of the grand fir. Several species of bark weevils were found. Among these was a new species that severely injured the terminals of Sitka spruce. Various types of girdled trap trees of Douglas-fir, Sitka spruce, western hemlock and Pacific red cedar were made at regular intervals throughout the season and numerous insects and notes on their biology were collected. Trips were made to Willapa Harbor, Pialschie [sic] and to Moscow, Idaho, to study forest insects at these places.
>
> The winter of 1903-04 was spent in Washington, D.C., working on reports and on collections of insects made during the summer.
>
> For the field season of 1904 I returned to Hoquiam, Washington, with trips to Palo Alto, California, Snoqualmie, Smiths Ferry, Idaho, Elmore and Nemo, South Dakota, and St. Louis, Missouri. This season I succeeded in rearing the adults of the hemlock bark maggot and the grand fir bark maggot and determined the main points in the biologys of these insects and of the *Pissodes* in the spruce terminals. A *Pissodes* working in the basal bark of young spruce and one in the basal bark of Douglas-fir were also studied. Many observations were made on numerous other forest insects such as the bark beetles, the wood-stainers and the woodborers. The western oak spanworm was studied and reported in epidemic form for the first time. At Smiths Ferry, Idaho, a new *Pissodes* was found in the terminals of Engelmann spruce and a study was made of an epidemic of the western pine beetle in a commercial stand of yellow pine and of the Douglas-fir beetle in a commercial stand of Douglas-fir. This was probably the first study made of such epidemics.
>
> On July 1, 1904 the Division of Entomology was made a Bureau and I was temporary Field Agent transferred from the Bureau of Forestry. This was a promotion in salary from $600 to $1200 per annum and was the realization of one of my youthful ambitions to have a government job at $100 per month.
>
> The winter of 1904-05 was spent in Washington, D.C., as before. The main feature was the publishing of U.S.D.A. Circular No. 61 "Black check in western Hemlock." This was the first scientific paper that I published [figs. 4 through 6].
>
> Part of the field season of 1905 was spent at Hoquiam and Pialschie with a trip to Rainier in

H.E. Burke, PSW

Figure 4—The Washington office, 1904-1906. In 1903, Dr. Hopkins moved his office from the insectary to these quarters in a private building at 904 B Street, S.W. Practically all of the work on the *Dendroctonus* and *Pissodes* bulletins was done here. This room was occupied until 1908. (Left to right) W.F. Fiske, Special Agent for the Southern States; E.C. Wood, clerk and stenographer; Dr. A.D. Hopkins; J.L. Webb, Special Agent for Rocky Mountain States; J.F. Strauss, artist; and H.E. Burke, Special Agent for Pacific Coast States.

H.E. Burke, PSW

Figure 5—On the grounds of the National Museum are seated (left to right) Strauss, Webb, and Burke. Standing are Van Horn and Wood. Van Horn came into the Division as a preparator and was rated as an entomologist of great promise. He mysteriously disappeared in February 1909. No trace of him was found, but it was suspected that he drowned in the Potomac River.



H.E. Burke, PSW

Figure 6—Forest Insect Investigations, Washington, D.C., November 21, 1905. (Left to right) W.F. Fiske, Phillips, and J.L. Webb. In 1903, W.F. Fiske, then Assistant State Entomologist of Georgia, was appointed by Hopkins as a special field agent to study the forest insect problems of the Southern States. He continued on this assignment for a few years only and was then transferred to the gypsy moth work in the New England States. Fiske became well known for his work on the introduction of parasites of the gypsy and brown tail moths. Phillips was in charge of the bee culture for the Bureau of Entomology.

August. The main feature of this season's work was the finding of the larva of the cedar pole borer which was damaging many standing red cedar.

We now know that the borer was a flathead, but which one? A new *Pissodes* was found infesting the alpine fir on Mt. Rainier and the mountain pine beetle was found to be killing western white pine at Longmires.

Since it was thought that the main facts about insects in the forests of the Pacific Northwest had been determined and because Dr. Hopkins had found extensive bark beetle damage to yellow pine and sugar pine on a trip to the Yosemite in 1904, it was decided to move the Pacific station from Pialachie to California in 1906. Professor J.H. Comstock's report that on a trip to the Yosemite in 1905 he had seen a great flight of small moths and much dying lodgepole pine probably had its influence too.

During April 1906 I completed some observations at Pialschie which include the finding of fragments of a *Trachykele* beetle indicating that a species of *Trachykele* might be the borer of the living cedar. The move to California was made in May

shortly after the San Francisco earthquake. After a few weeks at Palo Alto I went to Wawona. I spent a week there, ten days in the Mariposa Grove of Big Trees, and the established temporary headquarters at Summerdale (now known as Fish Camp). Many insects were collected and infested trees marked for further study. Small sugar pine and yellow pine were cut for trap trees. The period from July 10 to August 11 was spent in the Yosemite with one week in the little Yosemite and one week in the Tuolumne Meadows. The return to Fish Camp was made August 12 and the investigations continued there until September 17.

One of the principal results of the season's work was the discovery in the Mariposa Grove that *Trachykele* was the destructive borer of the Pacific red cedar. The Yosemite may seem a long ways from the red cedar forests of the Pacific Northwest, but we already had the boring larvae and only needed to connect it with the adult to determine the species. The finding of *Trachykele opulenta* larvae and young beetles in a small Sequoia in the Mariposa Grove proved that the borer of red cedar was also a trachykele. And the fact that *Trachykele blondeli* beetles were found in the red cedar forests indicated that species was the one causing the damage.

The western pine beetle was found killing scattering yellow pine in both Fish Camp and the Yosemite areas. The mountain pine beetle was found killing scattered sugar pines and yellow pines in the Fish Camp area and large numbers of lodgepole pines in the Little Yosemite just north of Lake Tenaya and around the Tuolumne Meadows. No needleminers were found, but the foliage of the trees on some areas looked thin and abnormal.

One important discovery in 1906 was a new species of *Dendroctonus (jeffreyi)* which was killing Jeffrey pine around the top of Yosemite falls and in the Little Yosemite.

At Fish Camp an epidemic of the fir tussock moth *(Notolophus oslari)* was studied and numerous parasites reared. The defoliation of the tops of many large white firs caused the death of a large percent of the tops and the loss of the seed crop for the year.

After a few weeks at Palo Alto in late September and early October studying the insects of Monterey pine and the Monterey cypress, I returned to Washington, D.C., October 17 [fig. 7]. The winter of 1906-07 was spent as usual working

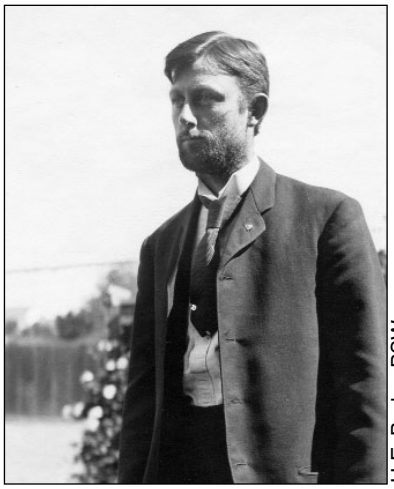


Figure 7—Harry Eugene Burke, at Palo Alto, California, after field season in the Yosemite country, 1906.

up the notes taken during the summer and in classifying and filing the insects and the information about them. A special study was made of the Buprestidae, particularly of the larvae. This included a key to the various genera.

The field season of 1907 from May 31 to October 24 was given over to a series of studies in northern and southern Utah with trips to Joseph, Oregon, and Palo Alto and Pacific Grove, California [fig. 8]. The results of the 1907 season were the recording of numerous observations and the determination of important points in the biology of the mountain pine beetle, the western pine beetle, and the red turpentine beetle. A new *Pissodes*, afterwards described as *burkei* by Dr. Hopkins, was discovered attacking the trunks of living alpine fir near Kamas, Utah. An infestation of the mountain pine beetle found near Joseph, Oregon, was one of the starting points of the great northeastern Oregon epidemic which killed millions of lodgepole and yellow pines during the next five years.

The winter of 1907 and practically all of 1908, 1909 and the first four months of 1910, except for occasional short field trips, were spent in Washington, D.C. working on the numerous notes and specimens collected during the first five years of forest insect investigations.

One of the field trips during this period included Custer, South Dakota, August 21-24, 1908, to study the end of the great Black Hills beetle epidemic. All that could be determined was that the epidemic appeared to be over. Only seven infested trees could be found. I also visited Anaconda,

H.E. Burke family

Figure 8—The Burkes spent their 1907 honeymoon camping in the Utah wilderness while Burke accomplished fieldwork. These photos show them cooking in camp.

> Montana, from August 27 to September 7 on the same trip to investigate the relations of forest insects to the killing of trees and other vegetation around the smelter areas. The conclusions were that the insects had practically no relation to the smelter-killed trees. Most forest insects were very scarce, seemingly due to being scattered through a great amount of slowly dying timber. The report on this investigation was used as evidence in several suits for damages caused by the smelter smoke.
>
> Thus far in this autobiography I have retraced some of the trails which I followed in western forest entomology from 1902 up to the spring of 1910. This was largely a period of exploration of the field to locate the more important problems. After this period the Bureau of Entomology began to develop both control and research programs in the western forests.
>
> This account brings us up to the Northeastern Oregon Bark Beetle Control Project which was the first large undertaking of its kind in this country and marked the beginning of a considerable expansion of the Division of Forest Insect Investigations.

Burke did a prodigious amount of forest insect collecting and studies on the life histories of those insects. His lengthy periods in the Washington office identifying his collections and preparing his notes for publication was excellent training that Hopkins required of his field entomologists. It probably instilled the lifelong habit that was characteristic of Burke, publishing his studies of insects in numerous well-written publications.

Burke's responsibilities were about to change, perhaps not to his liking. Some unknown poet very cleverly expressed the evolving relationship between the Bureau of Entomology and the U.S. Forest Service over the control of bark beetles.

> Whatever killed that monster pine
> Whose branches pierced the clouds so fine?
> Ask Doctor Graves, he herds the trees,
> Perhaps it is an extra freeze.
> "Freeze nothing" Doctor Graves' reply
> "It's fire that kills all trees that die
> Except a few that lumber jacks
> May murder with the saw and axe."
>
> "Fire never killed that forest tree"
> Says Doctor Hopkins, "You hear me:
> Bugs killed that tree, son, don't I know
> My printed books have told you so.
> For years I've warned you bugs were bad
> But you have just been fire mad.
> Trees killed by bugs in twenty years,
> Value one billion dollars it appears.
> From Hopkins's bulletin eight three
> Page four I name as referee."
>
> Thus Graves and Hopkins don't agree
> On what or who killed that big tree.
> But still the bugs grow fat and strong
> No matter which is right or wrong.
>
> -Anonymous

Chapter 4: The Northeastern Oregon Bark Beetle Control Project, 1910-1911

As Burke pointed out at the end of the last chapter, the Northeastern Oregon Bark Beetle Control Project in 1910 was the first of its kind in the United States and marked a change in the way Forest Insect Investigation entomologists carried out their duties. A portion of Burke's biography covering this project was published earlier and edited by the author. It goes into greater detail than Burke's biographical history of the project (Burke and Wickman 1990).

Hopkins was not an idle bureaucrat in Washington, D.C. He was a first-rate scientist and entomologist, but he was also an effective promoter. The Division of Forest Insect Investigations in the Bureau of Entomology was not going to be an academic organization collecting, cataloging, and writing about forest insects. Hopkins had a vision for the organization very early as co-managers and active advisors for the U.S. Forest Service and later the National Park Service in matters relating to forest insects. These two public agencies managed most of the forested public lands in the United States, and where there were forests there were insects feeding on trees and in many cases causing tree mortality over thousands of acres.

Hopkins was a member of the Washington, D.C., Cosmos Club. Most of the politically elite were also members including Chief of the Forest Service, Gifford Pinchot and his soon-to-be replacement Henry Graves. The year 1910 was called the "year of the fires" by historian Stephen J. Pyne not without cause (Pyne 2001). Millions of acres of prime timberland burned over a long dry fire season in the Western United States that year. Dozens of firefighters and settlers (the exact numbers will never be known) lost their lives. It changed the way the public and government agencies viewed forest fires for almost a century.

Prior to these fires, the Forest Service under Pinchot took a more ecological view of forest management. That is, all forest influences; biotic, like insects and diseases, and abiotic, like windstorms, drought, and fire, played a role in the life history of a forest. Insects or fire might kill trees over hundreds or thousands of acres, but in the big picture they did not usually devastate forests. After 1910, forest fires and the unacceptable loss of life they incurred, were paramount in the planning, budgeting, and managing of national forests. Against this tide, Hopkins argued valiantly that, taken together, forest insects and diseases caused more forest mortality, year in and year out, than one aberrant fire year like 1910.

The bark beetle situation in northeastern Oregon played right into his hands. Mainly through Hopkins' drum beating, both Forest Service personnel and private timber owners were aware that the "Forest Insect Investigations" division had trained entomologists who were willing to live in the field and help them combat the menace of bark beetle outbreaks. The private landowners petitioned the government to do something to reduce or stop the tree killing. Forest Service field people were also concerned and requested assistance. However, there was some reluctance from Forest Service people higher in the organization to dilute their efforts against forest fire by assigning rangers or spending money on killing **bugs**!

Hopkins was not shy about promoting his views. He visited northeastern Oregon in March 1910 and talked over plans for a grand control project with whoever would listen, including a Town Hall type meeting in Baker City, and started lobbying for a Congressional appropriation.[1] Hopkins placed Burke in charge as his technical representative. This was Burke's first assignment where he set up a field station, supervised others, made technical decisions, and essentially managed the project work. All was not smooth sailing, however, and the Forest Service leaders in Washington, D.C., and the district office in Portland, Oregon, were wary about having their rangers report to, or be under, the direction of one of Hopkins' entomologists. The Forest Service's cooperation was vital in order to obtain the needed appropriation of $25,000 to carry on the control project and to make it a viable biological operation given that much of the outbreak was on federal land.

The following exchanges and agreements were found in documents in my possession. They are not in Burke's autobiography so I will record them before proceeding to Burke's version (Burke and Wickman 1990).

[1] Appendix. Hopkins even had a "broadside" type handout to vent his views on the matter.

The shortcomings in agency cooperation that had actually begun early in the spring of 1910 were reported by Burke to his chief, Hopkins, and resulted in a flurry of letters and meetings in April 1910 between Hopkins and H.S. Graves, Chief of the Forest Service, in Washington, D.C. One meeting took place at the Cosmos Club and resulted in Graves writing to Hopkins, " . . . I read over your memorandum of our conversation at the Cosmos. In the account of my statement there are a number of errors, which I will correct and show to you as soon as I have an opportunity. They do not matter much as long as we are able to get together on the general proposition." Hopkins tactfully replied, " . . . I was doubtful about some of the features in our conference and am glad that you will correct them. I agree with you heartily that the thing is to get together on the main proposition and proceed to **kill the beetles**."

Hopkins was a strong individual who was going to insist that Bureau of Entomology personnel remain in technical charge of forest insect control projects on federal lands. It was also evident that at least some Forest Service people resented this intrusion of nonforesters into their domain. Hopkins insisted, on recommendation from Burke, that only one technical expert be in charge of a control project and that that person be an entomologist, namely, Burke. Hopkins and Burke also felt strongly that Forest Service personnel assigned to the project should be of high caliber and remain on the project for the duration and not be pulled off to take care of other forest management demands as R.E. Smith, Ranger on the Whitman National Forest, had been in 1910.

Chief Forester Graves acceded to the first request but resisted having his foresters so tightly restricted from carrying out other duties. In a letter to District Forester Chapman in Portland, Oregon, Graves wrote,

> I enclose a copy of Doctor Hopkins' plan for this project. I approve of the general plan, but think that the form of the agreement is too rigid in the matter of agreeing in advance to devote to this work certain of our men. I think a better plan would be to find out just how much money must be expended, and then arrange to put the men on the work. I fear that Doctor Hopkins' plan might result in a conflict of work on the part of their time to it. It would be better to have a man specially assigned to the whole time.

To resolve this apparent impasse, the federal bureaucracy by winter 1911 produced a thick stack of agreements (called supplements to Project Number 38), eventually signed by everybody up to the Secretary of Agriculture. The agreement very rigidly spelled out responsibilities and personnel assignments.

Henry S. Graves was new as Chief Forester of the Forest Service, having been appointed a few months before this exchange of letters from his position as dean of the Yale School of Forestry. He had been a long-time associate of Gifford Pinchot, who was dismissed as Chief Forester by President Taft in 1910. Graves' relationship with Pinchot began when he (Graves) was an undergraduate at Yale. Graves became a member of Pinchot's forestry consulting firm in 1896 and became Assistant Chief of the Division of Forestry under Pinchot in 1898. In 1900, Graves was hired as dean of the Yale School of Forestry, largely through the influence of the Pinchot family. When he replaced Pinchot as Chief Forester in early 1910, he no doubt had many more things on his mind than humoring Hopkins or worrying about a bark beetle problem in faraway Oregon. But, Graves had an ecological bent. He had seen the beginnings of the large bark beetle outbreaks in the Black Hills in 1897 and was sympathetic to the need to combat the mountain pine beetle in Oregon (Clary 1979, Graves 1965). I have copies of letters that indicate he was diplomatic and gentlemanly in his dealing with Hopkins, and this was perhaps not always easy.

The private landowners were also having difficulties. The main problem was that there were so many small landowners; they were hard to locate or they were absentee owners. There was also quite a bit of distrust among landowners, so getting signed agreements and assessments from everybody was hard. An attitude of "I'll do it if he does it" seemed to be prevalent. W.B. Turner, special agent in charge of cooperation with landowners, evidently did an excellent job of lining up agreements and support from private landowners, and a cooperative agreement for the project was signed by many parties.

In Sumpter, the economic advantage of the control work was recognized. The Sumpter Blue Mountain American editorialized on April 16, 1911, " . . . Between the logging camps and the bug hunters there is no reason why all laborers should not have employment at this place this summer."

The Sumpter Blue Mountain American reported the conclusion of the project on June 29, 1911:

> Bug Fighters Through—Government Complete [sic] Season's War on Pine Beetle. Government Officials Well Pleased With Results Accomplished.
>
> Tomorrow the government work for the season in Uncle Sam's war on the pine beetles, with which the pine forests of Eastern Oregon are infested, will have been completed. The officers in charge of the work are well pleased with the results accomplished. They report that more than 30,000 infected trees have been cut down and burned and that a larger scope of country than they anticipated when starting in the spring has been cut over. From 120 to 130 men have been employed in the work. The government men in charge of the work feel that much good will result in checking the spread of the little bug which they say is creating such havoc in the pine forests. The general impression seems to be that the beetles only attack the lodge pole or black pine [young ponderosa pine] a timber of little commercial value. This impression is erroneous. The reports show that fully as many infected yellow pines were cut down as of the black pine. Some of these yellow pines were large trees, one being noted that was 84 inches in diameter.

Burke's memoirs give a detailed account of this first forest insect control project on the west coast (fig. 9).

> The Northeast Oregon Bark Beetle Control Project
> a. Developments during the fall of 1910.
>
> The Northeastern Oregon Forest Control Project really started August 17, 1907, when at the request of Supervisor Howard O'Brien of the Imnaha (Wallowa) N.F. I examined dying lodgepole and yellow pine on the divide between Little Sheep and Big Sheep Creek near Joseph, Oregon. The mountain pine beetle was found to be the main depredator, but the western pine beetle was also present in the yellow pine. During the preceding three years, 90 to 95 percent of the lodgepole and much of the yellow pine had been killed on an area of over 100,000 acres.

H.E. Burke, PSW

Figure 9—The Northeastern Oregon Bark Beetle Control Project. First office and field station, Baker, Oregon, September 1911. (Left to right) W.B. Turner, special agent in charge of cooperation with private owners, and H.E. Burke, agent and expert in general charge of the project.

During the spring of 1910, W.C. Calder, an agent of the Wallowa Timber Company of Warren, Pennsylvania, stationed at Baker, Oregon, became alarmed at the dying yellow pine near Baker and started a movement among the private owners to have something done about it. From the Forest Service he heard of the Office of Forest Insect Investigations and started corresponding with Dr. A.D. Hopkins. Forest Ranger W.D. Edmonston of Colorado and I were ordered to Baker to represent the Bureau of Entomology at a meeting of private owners, forest officials and others interested in protecting the timber. Private owners from Baker, La Grande, Portland and Spokane were present and forest officers from Portland and Sumpter (Whitman) National Forest.

May 15, 1910, the party traveled to Anthony Creek in the Whitman National Forest and examined the infested timber. The mountain pine beetle was found to be the main depredator in both the lodgepole and the yellow pine. The western pine beetle was found in the yellow pine, especially in the larger trees, usually in the bark left unattacked by the mountain pine beetle.

May 16 the party went to Austin on the divide between the Powder and the John Day rivers.

Around Austin where the forest was mostly yellow pine the dying timber was rather scattered and mostly the work of the western pine beetle.

As a result of these meetings, Forest Assistant B.T. Harvey and Forest Ranger R.E. Smith were detailed to work under my supervision and make examinations of the Wallowa National Forest and the Whitman Forest to determine just where the infestations were and just how many trees were infested. Ranger Edmonston went to Medical Springs to examine the timber on private holdings adjacent to the Wallowa Forest.

Following these postings, I moved to Sumpter to make headquarters for the project and to demonstrate to the private owners and visiting forest officials the infesting insects and their work. Investigative trips were made through the infested areas in both the Whitman and the Wallowa Forests.

By July 1 it was determined that the infestation was widespread, involving at least 2,000,000 infested trees, and that the infesting insects were so far advanced that no effective control work could be done on the 1909-1910 infesting broods. It was decided to spend the summer studying the infestation and working with the various owners to convince them that a cooperative control project was practical against the infestation developing during the 1910 season.

Forest Ranger Edmonston was made an Agent and Expert in the Bureau of Entomology and transferred from the Forest Service. Edmonston arrived in Baker several days before May 15, 1910, and in company with the Whitman Forest official examined the infested area west of Baker and selected the Anthony Creek area as the proper one for demonstrating to the private owners the seriousness of the infestation. After the trips with the private owners and others to Anthony Creek on the 15th and to Austin on the 16th, Edmonston spent some time at Medical Springs examining private holdings on the Wallowa Forest. Later trips were made through both the Wallowa and Whitman Forests. After July 1, when it was decided that no control would be undertaken against the 1909 broods, Edmonston spent most of July and August at Sumpter and Joseph cruising infested areas. About September 1, Sumpter was made his headquarters and he cooperated with the forest officials in working up plans for fall control.

August 3, Agent W.B. Turner of the Bureau arrived from Washington, D.C., with instructions to work with the private owners of timber and help them to organize and work for an appropriation for forest insect control work in the area.

September 1, Baker was made headquarters for the project and Turner and myself located there.

September 18, various private timber owners organized the Baker Forest Protective Association and determined to undertake forest insect control.

Control work started on the Northeastern Oregon Project on October 28, 1910, with the establishment of one camp by the Baker Forest Protective Association in private timber at Cold Springs near Lockharts and one camp by the Forest Service in the Whitman National Forest on Wind Creek near Sumpter.

The primary object of these camps was the training of cruisers and foremen for the main control camps that were expected to be started in the spring of 1911 and to experiment with several methods of control.

The Association camp consisted of E.L Gerber, manager, E.J. Maberry, cruiser-foreman; four woodsmen; one cook; Agent W.B. Turner; and Expert H.E. Burke. One of the woodsmen, J.J. Sullivan, became an entomological ranger and was with the Bureau for a number of years.

Instruction started immediately with the cruising of the timber and the plotting and marking of the infested trees. After six days of cruising instruction was given in the proper methods of destroying the infesting insects.

Infested trees were felled and peeled, felled and scored on top, felled and burned. Cruising was then continued until November 12 when treatment was taken up again and continued until November 27 when a deep fall of snow caused the closing of the camp for the winter.

The Forest Service camp was composed of Ranger R.E. Smith, manager; from 2 to 13 woodsmen; one cook; and Expert W.D. Edmonston. On reporting for work on October 27, the men were instructed in the determination of insect-infested trees and in the methods of treating them by Expert Edmonston and Ranger Smith. Due to the heavier infestation, most of it in lodgepole, spotting and treating went on together. Edmonston could mark enough infested trees in a few hours to keep the crew busy treating for a day or more. The camp was closed November 19 because of heavy snow.

The Association covered 3,640 acres and treated 723 merchantable trees and 130 saplings at a cost of $806. One hundred of the trees treated were lodgepole. The Service covered 340 acres and

treated 1,120 trees; 1,056 of the trees treated were lodgepole, 61 were yellow pine, and 3 were white-barked pine. The 61 yellow pine were merchantable, but most of the others were not considered so though many of the lodgepole were large and looked like good timber.

b. Control work during the spring of 1911

I spent the winter of 1910-11 in Baker, Oregon, consulting with timber owners and working up data and plans. Edmonston stayed in Sumpter at the headquarters of the Whitman Forest to assist the forest officers. Turner returned to Washington to help present the project to the Bureau and to Congress.

February 8 and 9 Edmonston and I made a trip to the Highland Mine in the mountains east [sic] of Haines. Fifty percent of all of the lodgepole over 10 inches in diameter were found infested by the mountain pine beetle and a number of Engelmann spruce by the Engelmann spruce beetle.

During the winter Congress appropriated money for forest insect control and on March 8, $15,000 was allotted to the Whitman.[2]

Dr. Hopkins spent March 25-30 at Baker looking over the project area and talking over plans for the work. Agent Turner arrived in Baker April 1, and started at once to work up cooperation among the owners and to assist the Baker Forest Protective Association.

Control work started April 5, 1911, with the establishment of Forest Service Camp 1 on Deer Creek near Sumpter. Camp 2 was started April 6 on Anthony Creek near North Powder. These two camps were used as training camps for training foremen and cruisers for the other camps. Edmonston had charge of the control work in the field for the Bureau and Assistant Ranger Ephriam Barnes for the Forest Service.

Additional camps were started from time to time until nine camps in all were working. As soon as one area was worked, the camp was moved to another. In all, 28 camp areas were worked.

May 3 the Baker Forest Protective Association started its 1911 control work by establishing a camp on Sutton Creek under the management of L.D.W. Shelton. Small mobile camps were sent out from this camp. May 26 a camp was established at Cold Springs, but due to lack of funds this camp was turned over to the Forest Service on May 28 and became Camp 7.

Control work was continued by the Forest Service to June 30 when all of the camps were closed. The Association continued until July 10.

While the control work was in progress, my time was largely spent demonstrating and explaining the work to the various visiting owners and officials. Owners from as far away as Warren, Pennsylvania, visited the project. Among these were E.D. Wetmore, President of the Wallowa Timber Company of Warren, Pennsylvania, W.B. Sellers of the Shevlin Lumber Company, Secretary C.S. Chapman of the Oregon Forest Fire Association, State Forester Elliot of Oregon, District Forester Cecil of District 6,[3] Dr. Hopkins from April 11 to 16, and many small owners, newspaper men, etc.

Several companies sent cruisers to be instructed in the work. These men worked in the camps as regular employees. Among them were E.J. Maberry and E.L. Gerber of the Wallowa Timber Company, William Long of the Inland Lumber Company of Spokane, J.B. Larsen of the F.A. Kribs of Portland. Josef Brunner of Forest Insect Station 1 sent Lew Thomas, Hugo Kneiff and Al Wagner to assist in the work and receive training.

The organization as carried out was composed of myself in general charge for the Bureau of Entomology, Forest Supervisor Henry Ireland for the Forest Service, and Cruiser L.D.W. Shelton for the Association. The actual managers of the control work in the field were Expert W.D. Edmonston for the Bureau, Assistant Ranger Barnes for the Service, and Cruiser Shelton for the Association [figs. 10 through 13].

P.D. Sergent was engaged by Edmonston as a worker on several control projects in Colorado before coming to the Northeastern Oregon project in April 1911. He had previously been a deputy United States Marshall in Oklahoma. He was a special cruiser assistant to Edmonston until July 1911 when he was appointed as Agent. He moved with Edmonston to the station at Klamath Falls, Oregon, in the fall of 1911 and was later assigned to the station at Ashland, where he remained until November 15, 1924. He resigned to take a job as foreman for the McCloud River Lumber Company on bark beetle control projects, but after a year or so with the

[2] This was the first funding provided by Congress specifically for a forest insect control project in the West. Burke was in error on the amount; actually $25,000 was allotted.

[3] The Forest Service changed districts to regions in May 1930 (Williams 2000).

H.E. Burke, PSW

Figure 10—Examining mountain-pine-beetle-infested ponderosa pine, Miner Creek Area, Whitman National Forest, near Sumpter, Oregon, April 16, 1911. Dr. A.D. Hopkins in center with control crew.

H.E. Burke, PSW

Figure 11—Preliminary training camp. (Left to right) Woodsman Stockburger, agent and expert H.E. Burke, woodsman J.J. Sullivan, woodsman Ike Miller, cruiser-foreman E.J. Maberry, and woodsman Henkel.

company joined the Water Department of the City of Ashland.

Edmonston directed the work in the field, placing the camps and instructing the cruisers and foremen. Barnes and Shelton supplied the men, equipment and provisions and moved the camps.

Each camp was composed of one camp foreman, from one to three cruisers, three crew foremen, from 6 to 14 woodsmen, one cook and sometimes a cook's helper. The treating crews were composed of a crew foreman, two woodsmen and additional men to pile brush when that had to be done.

H.E. Burke, PSW

Figure 12—Control camp of the Baker Forest Protective Association, fall 1910.

H.E. Burke, PSW

Figure 13—Recruise of control area, July 1911. On the summit of Elkhorn Mountain are (left to right) F.C. Craighead, an unidentified agent, and P.D. Sergent.

The standard wage for a camp foreman was $3 per day and board, for a cruiser $2.75, a crew foreman $2.50, a woodsman $2.25, and a cook $75 per month.

The control work covered 109,610 acres, parts of 22 townships, along the eastern edge of the Whitman National Forest in Baker and Union counties. The Service covered 94,890 acres, about 35,000 acres being government land and 59,890 private. The Association covered 14,720 acres, all private.

Service treated 11,403 (2,914,130 board-feet) of yellow pine and 15,170 (1,295,960 board-feet) of lodgepole. The Association treated 2,265 yellow pine and 3,728 lodgepole, total board-feet 610,310.

The maximum number of trees treated per section was 571 yellow pine and 1,074 lodgepole; the

average number treated was 62 yellow pine 207 lodgepole.

The total cost of the spring control was $25,582.97 of which $2,000 was spent by the Association. To this, to get the total cost of the project, should be added the $1,681.55 spent for fall work.

The control work demonstrated conclusively that in this infestation the mountain pine beetle was the insect responsible for the damage to all species of trees—yellow pine, lodgepole pine and white-bark pine. The western pine beetle was sometimes present, but practically always under conditions, which indicated that it had attacked the tree after it had been attacked by the mountain pine beetle. The western pine beetle never was found in the young yellow pine, lodgepole pine nor white barked pine. In a few instances, the red turpentine beetle seemed to be the primary cause of the death of lodgepole.

Apparently the infestation of the mountain pine beetle first became epidemic in the lodgepole pine and then spread upward into the white bark pine and downward into the yellow pine.

In June orders were received to recommend 10 men for appointment as agents to the Bureau. A.G. Angell, C.C. Goodpasture, George Hofer, Hugo Kneiff, Ike Miller, J.D. Riggs, Phil Sergent, J.J. Sullivan, Lew Thomas and Al Wagner were recommended and appointed.

When the project closed I was ordered to take charge of Forest Insect Field Station 5 at Yreka, California, and to take with me Angell, Sullivan and Riggs. Edmonston was placed in charge of Station 6 at Baker with Goodpasture, Hofer, Miller and Sergent. Kneiff, Thomas and Wagner were ordered to report to Josef Brunner in charge of Station 1 at Columbia Falls, Montana. Agent Turner was ordered to Station 7 at Spartanburg, South Carolina. He took with him Hamilton Farnum who had been taking notes on the infesting insects during the control work. Farnum was later appointed an agent and worked for the Bureau for several months at Spartanburg and at Washington.

During July and August, Edmonston and his crew made a survey of the control area to determine the amount of new infestation that was developing. F.C. Craighead, now the chief of the Division of Forest Insect Investigations, was a student assistant for the summer and spent some of his time with this survey. This was his first experience in the forests of the Pacific Coast.

c. Some of the Cooperators

The Private Owners

W.C. Calder probably was the main personnel reason for the Northeastern Oregon Control Project. As the agent at Baker for the Wallowa Timber Company, Calder became alarmed at the dying of the timber and did something about it.

Calder was about 40 years of age in 1910, a native of the middle west, very good looking and always well dressed. His reputation was a little shady, he having been a dealer in mining stock, insurance and particularly in investing money for more or less rich widows wherein the widow usually lost the money. At the time of the project, Calder was married to the widow of Mason of Holly, Mason and Marks, the leading hardware dealers in Portland.

As agent for the timber company, it was Calder's duty to buy timber land and to look after the timber, fire protection, etc. It was the same old cut-throat game of buying your timber so you could surround an area and prevent the other fellow from getting in or having a way of getting his timber out without paying you for the privilege.

At the time of the project the only way to get timber out was by railroad and the only railroad into the timber near Baker was the Sumpter Valley. This road was to be a common carrier but it was owned by the Mormon family of Eccles of Utah. This family owned timber lands in the Baker section, at Hood River and other points so had considerable influence. Cars were often short when other owners desired to get out their timber. This caused considerable friction between the Mormons and other owners of timber which made it rather difficult to form a cooperative project among the various timber owners. Calder, in particular, was in bad because he had said a great deal about the Sumpter Valley and the Mormons.

Calder, however, was all energy and enthusiasm and with the aid of Turner did get the various owners together. The Baker Forest Protective Association was formed and 3 or 4 thousand dollars was collected. Calder also kept after the Forest Service and the Bureau until they got behind this project.

E.L. Gerber, the Association manager for the 1910 fall control work, was about 25. He came from a circus family and was born on the road. Gerber was a timber land looker for Calder and had

some cruising experience. As manager for the control work, he hired the personnel and saw that the camp was supplied and outfitted. He also did some insect spotting of infested trees. One of the men hired was J.J. Sullivan who became an entomological ranger for the Bureau.

E.J. Maberry, the cruiser-foreman for the 1910 Association control work, was also about 25 and a native of southern Idaho where his father was a horse raiser. Maberry seemed to know his work well having had cruising experience with the Warren Timber Interests in New Mexico, as well as in Oregon. While Gerber was strictly a Calder man, Maberry had been trained by Shelton and was more of a Shelton man. In a way it looked as though the Company was playing safe and had Shelton keeping an eye on Calder. Maberry worked under Shelton in the 1911 control work carried on by the Association.

L.D.W. Shelton, manager of the 1911 Association control work, was about 65 at the time of the project. He was an experienced surveyor and timber cruiser and had made the original surveys for parts of western Washington. The town of Shelton on Puget Sound was named for him. Shelton was a good field manager but did not think much of Calder, the Bureau, or the Forest Service so ran the control more or less on his own.

Mr. E.D. Wetmore, president of the Wallowa Timber Company, was about 50 and a man of wide business interests. He was a good backer of the project and reported to Washington that he was well satisfied with the way the control was conducted.

The Forest Service

At the time the project started in 1910, C.S. Chapman was the District Forester of District 6 of which the Whitman and the Wallowa Forests were a part. Chapman was a trained forester who had considerable training and experience in various parts of the United States. He was a good cooperator and did all that he could to make the work a success. Later he became the secretary of the Oregon Forest Fire Association and then worked for the Weyerhaeuser Timber Company in Washington State until his death a few years ago.

George H. Cecil was the Associate District Forester of District 6 at the time the project started. He visited the project several times, but was not as good a cooperator as Chapman and did not favor the control work. Cecil followed Chapman as District Forester. Later he became Supervisor of the Angeles Forest in District 5 and then forester for the Los Angeles Chamber of Commerce which position I believe he still holds.

Henry Ireland was supervisor of the Whitman National Forest with headquarters in Sumpter. Ireland was about 50 years of age and one of the old Interior Department political appointees. He was a carpenter by trade in west-central Oregon and when appointed fought forest fires by riding up to the fire on a horse with his rifle on his shoulder and watching the timber burn. This was the usual method of forest fire fighting in those days. Soon after the start of the century, however, methods improved and forestry became a profession. Ireland made good and soon rose to the position of supervisor of the Whitman National Forest which contained several areas of very good yellow pine accessible to a good market. Ireland was a good cooperator, but did use the bark beetle infestation to increase his timber sales. The more receipts the more important the position. He remained the supervisor of the Whitman until his death in 1918.

The forest assistant on the Whitman was M.L. Merritt. Merritt was a forestry graduate of the Iowa State College and had been in the Philippine Forestry Service. He was much interested in the insect work, but became seriously ill and was in the hospital most of the time during the project. Merritt afterward transferred to Alaska and later became assistant regional forester in charge of operation for Region 6.

Three of the rangers on the Whitman were R.E. (Kan) Smith, Ephraim Barnes and H.B. Rankin. Smith was a Kansas boy who had joined the Service without any previous forestry experience. He was a serious student, however, and had taken several short courses in forestry. He made the original insect survey on the Whitman and had charge of the 1910 control work for the Service. He did not like control work so was transferred to other work in 1911. Later he transferred to Alaska and was there for a number of years.

Barnes was a young middle westerner, also without technical forestry training. He was made manager of the 1911 control work for the Service, but in the middle of it was promoted to be Supervisor of the Ochoco Forest with headquarters at Prineville in central Oregon. Afterwards he was made supervisor of the Minam Forest with headquarters at Baker. Later, about 1918, he left the Service.

Rankin was an older man who had been a railroad station agent before joining the Service. He

saw something of the infestation and the control work but was transferred to western Oregon where he became Supervisor of the Siuslaw Forest.

W.T. Andrews, logging engineer for the District, spent some time in the infested areas. He did not think much of control work and believed that the best plan was to sell the timber before the insects could kill it.

In spite of these colorful characters, the Northeastern Oregon project ended on an up beat with apparently some success in reducing the amount of timber being killed by bark beetles. But, perhaps the most important outcome was the demonstration that private timber owners, the Forest Service, and the Bureau of Entomology could all work together toward a common goal and, in the process, a model for future insect control projects was established.

We shall see whether future projects would be as successful for Burke and the Bureau, but first John Miller needs to be introduced. He began his career as a forest entomologist under Hopkins just as the Northeastern Oregon project concluded. He arrived via a different route, however, starting as a Forest Service Ranger with an interest in forest insects and mildly defying some of Hopkins' theories as applied to a new bark beetle outbreak in 1911 on the Klamath National Forest near Yreka, California. Hopkins may have been taken aback by this upstart, but a forester with a university degree and a keen interest in forest insect biology and forest ecology was just the sort of professional needed in his expanding organization. The fact that Miller was not overly impressed by "The Father of American Forest Entomology" might have also worked in his favor. Hopkins seemed to appreciate critical minds unless they wandered too far from his set ideas. At any rate, he saw something in Miller he liked because in 1911 he had the young ranger transferred to the Bureau of Entomology and put him in charge of the next major bark beetle control project on the Klamath National Forest. Burke and Miller were about to be long-term colleagues and friends, and forest entomology in the West was better because of their association.

Chapter 5: John Martin Miller Family History and Education—the Forest Service Beckons

John Miller did not come into the world in as exciting a fashion as Burke did (during an Indian uprising), but he also descended from pioneer farming ancestors who moved west with the frontier. Miller's mother and father moved from Pennsylvania to Ohio, then to Illinois, and as the Mississippi valley got crowded for them they continued west to California. John's brother said "they sometimes talked of the Sandwich Islands" (Miller 1943). John's son described his birth and what is known of his early years; it is recounted in a second family history assembled in the 1960s (Miller N.d.b).

> John Martin Miller was born August 31, 1882 at the Miller Ranch called The River Bend Place. This was about one mile east of the town of Parlier, in Fresno County, California. He was the youngest of four children born to Martin Miller and his wife, Ardalissa Dryer Miller. His first five years of boyhood were spent at the River Bend Place. In the fall of 1887 his parents endeavored to sell the ranch and moved to Los Angeles at a location near the present Prospect Park on the Los Angeles River. Two years later, in the fall of 1889, the Miller family returned north to the River Bend ranch, the sale having fallen through. The family had suffered economic reverses in the Los Angeles area. John would have reached school age, but it is uncertain if he actually began elementary school in the Los Angeles area.
>
> His parents again took up farming at the River Bend ranch and John progressed through elementary grades at the River Bend School which was a short distance from the family home. In 1896, he was ready for secondary (high) school. There were no such schools at Parlier or Reedley, so John was enrolled at Selma High School. Selma was a small town on the Southern Pacific main line about eight miles southwest of Parlier. He completed high school in the year 1900.

As a boy growing up on a ranch, Miller had chores and responsibilities from an early age. He was also fortunate to be raised in a healthy environment and close-knit family. His skill in handling horses and camping experiences gave him an instant advantage when he began working for the Forest Service in later years. There was no question about Miller continuing his education at the college level because the family valued education as well as hard work. He entered Stanford University in 1902 and majored in Biological Sciences. He particularly enjoyed entomology taught by Professor R.W. Doane, a noted entomologist. Probably because of his outdoor upbringing, he and a few other students formed a forestry club.

Miller dropped out of school in the winter of 1907 and worked for the Water Department of Pacific Grove, California. He must have been casting about for other employment opportunities at the time. The following excerpt from an April 26, 1907, letter to his sweetheart, Miss Bessie Brose in Parlier, California, indicates that the U.S. Forest Service, Sierra National Forest made a job offer.[1]

Although Miller's letters were meant as love letters to his fiancé and they are not included in their entirety here, they are significant historical accounts of the everyday life of a pioneer ranger in the U.S. Forest Service.

John's first letter of the period begins with an apology for not writing sooner. This is how he explains his tardiness.

April 26, 1907

> It all happened about this way:
>
> I am about to leave Pacific Grove, and I have had so many affairs to straighten out here that time has been a pretty scarce article with me. I have had a chance to take a Government position on one of the Sierra forest reserves and I have about decided to take it up. I am going to start next Monday for North Fork. I have had a hard time of it coming to a decision. I will be disappointed in not getting home this summer in more ways than one and I hope that you will not think me foolish when I say that one of the most important of these reasons concerns you.
>
> However if I keep on in the Forestry Service, the experience of this summer will be just what I need and I can hardly afford to let it go. When you hear from me again I hope to be able to tell you more about this.

[1] Miller and Bessie Brose carried out a regular correspondence for the next 3 years until they were married. The Miller family has kindly allowed use of parts of the letters.

Evidently Miller decided to give a job in the Forest Service a try, for his next letter to Bessie several weeks later show him on the job in camp.

May 19, 1907

My Dear Bessie:

I hope that you will pardon me for using a lead pencil, but it is the only accommodation that the camp affords. I reached North Fork Friday evening and found orders awaiting me to report at Sugar Pine with the technical Assistant and two other Rangers. So it was saddle up early the next morning and take the trail. It was an all day ride and I enjoyed it immensely. There are so many pretty places about the mountains.

We came on past Sugar Pine to the Rangers Camp on the old Miami Mill Site. We are in an old log cabin that has a big stone fireplace in one end and no windows or doors. We have a big open meadow out in front of the house where we pasture our horses. It is decidedly cold at night. The meadow was white with frost this morning and the snow is only a few miles away.

Everything is much later here than it is in the valley. The trees are just beginning to leave out and the willows are still in catkins. I have found a few snow plants and there is plenty of dog wood in blossom. I wish I could send you some of the wild flowers that we have here. There is certainly plenty to spare.

I am marking out timber for the mills to cut and enjoy the work although I haven't very much of it yet. Yesterday we had to lay off and take our Sunday as part of party did not get here, so we had to start in work today.

I did not get to see the Supervisor so can't tell yet whether I can get a leave of absence next month or not. Write to me next time at North Fork, Cal. That will be my permanent address while on this work.

Lovingly yours, John

I will digress a bit and describe what John Miller was getting into being a field employee of the U.S. Forest Service. As starters, Miller probably took the job because he loved the outdoors (from his early letters he described long walks to see scenery and the cypress trees on the Monterey Peninsula). The Sierra National Forest was also directly east of his family home ranch and that of the Brose family, thus he would be closer to his future wife. Miller may not have been fully aware of how physically demanding the field work in this new agency, the U.S. Forest Service, could be. The Forest Service was officially only 2 years old in 1907. The history of the formation of the U.S. Forest Service in 1905 from the original Division of Forestry formed in 1881 in the Department of Agriculture is well documented by the first Chief, Gifford Pinchot, and others (Guthrie 1995, Joslin 1999, Pinchot 1947).

As the following letters will illustrate, John Miller was the model Forest Ranger of these first years of the organization's existence. Rangers had to know how to work hard, (dawn to dark at least 6 days a week), ride, shoe horses, pack animals, rope, shoot, build fences and cabins, and somehow also have enough education to read, write, and do at least rudimentary arithmetic for timber cruising and sales and land surveys. In addition, honesty, integrity, and loyalty to the Forest Service were demanded. Needless to say, many of these early rangers were not college educated. They were mostly farmers, ranchers, trappers, hunters, and other outdoorsmen having some secondary school education. Miller was rare, along with a few others, in having 3 years of biology from Stanford University. He probably had to prove himself more than once with his less educated and less socially polished coworkers.

As to the other side of the coin, his formal education resulted in rapid promotion in the Forest Service when he obtained his civil service appointment. Probably because of his university zoology courses, he could recognize and interpret natural processes, like tree killing by bark beetles. He became a lifelong researcher of tree-killing bark beetles of the genus *Dendroctonus*. To the Forest Service's credit, they recognized his unique talents and, as we shall see, eventually detailed him to emerging forest insect problems. Down the road in this history we shall see how he came to Dr. Hopkins' attention (and ire) and eventually an appointment in the Bureau of Entomology under H.E. Burke. Miller's letters to Bessie continue to describe his life in the early U.S. Forest Service.

June 28, 1907

My Dear Bessie:

I don't know when this letter will reach you but I will write now and trust that you will be

J.M. Miller family

Figure 14—Mrs. Shinn at their cabin, North Fork, Sierra National Forest, ca. 1909.

satisfied with news that is several weeks old. I made the trip up here without any serious mishaps although I nearly lost the pack mule on the cable bridge at the San Joaquin River.

It was desperately hot through the foot hills. I camped the first night about twenty miles above Centerville. I reached the San Joaquin River about six o'clock the following evening and got my supper at the Light and Power company's power plant and then climbed out of the Canyon up to the Supervisor's headquarters. I had a ten mile trail and 2000 feet to climb and I got there about 10 o'clock p.m. I found the place deserted as everybody had gone up to the upper camp. The next day it was good and hot at North Fork. I climbed up 3000 feet more to Shinn's[2] upper camp and found it cold enough in the evening to enjoy a fire. I am located on a pretty little meadow with big sugar pine trees all about it [fig. 14].

[2] Charles T. Shinn arrived in North Fork in 1902 as the Superintendent of the Sierra Forest Reserve. When the Reserves became National Forests administered by the U.S. Forest Service in 1905, Shinn was appointed the Forest Supervisor of the Sierra National Forest. He held this post until he resigned in 1911 because of increasing deafness. His wife, Julia, was appointed clerk of the Sierra Forest in 1907, and served several more supervisors until 1923. In her role as clerk and then chief clerk of the Sierra National Forest, she became more famous than her husband (Pendergrass 1985).

Shaver, June 30, 1907

I did not get this letter finished as I was suddenly called out to go back to the South of the San Joaquin River. I am outfitting now at Shaver and start back on a thirty mile trail into the mountains. I will have to go back to snow.

Lovingly, John

Miller made time to write every several days, and given the circumstances he did quite well as a correspondent.

July 7, 1907

Sunday in camp! Little there is to remind one of Sunday at home unless it is the fact that we are not at work. I am thirty miles from a house, fifty miles from a church over a hundred miles from you. We certainly hit the wilderness on this trip and had to come through snow and ice to get here. We left Shaver last Monday morning started back on the Mono Trail with saddle horses and pack outfits. By noon we were in the snow but left it above us that afternoon as we went down into the Canyon of Big Creek. Our horses had to swim to cross the creek. That night we camped on other side of the canyon just at the edge of the snow line. And cold!—Oh my!!!

The next morning we went through Kaiser Pass where at an altitude of ten thousand feet we crossed snow drifts from six to ten feet deep. Then we came on down into the canyon of the San Joaquin and here we have been ever since. This altitude here is only about five thousand feet and it is a good deal warmer. We are camped right on the river which is high with water just off of the melting snow and goes roaring by in a regular torrent.

When we came through Kaiser Pass it was hard to realize that it was the middle of summer and that down on the plains it was hot and dry and dusty. The grass was just beginning to grow on the meadows and the willows still had catkins on them and the leaves were only starting. As yet we could only find a few wild flowers. Down here on the river the snow leaves early and it is a good deal warmer and dryer. Every evening we go fishing and get all the trout we can eat for breakfast.

The canyon walls rise on either side of the river in rock cliffs from five hundred to a thousand feet high and from there back to the summits the canyon walls are timbered. On this little flat down by the river there is only yellow pine and sage brush.

Miller's letters demonstrated his keen powers of observation and ability to describe what he sees.

Supervisors Upper Camp, July 26, 1907

My Dear Bessie:

I believe that explanations are in order and as usual I hardly know where to begin. I have almost forgotten whether two or three Sundays have gone by without my writing to you. Your last two letters were both received on the same day and as I had not heard from you for nearly a month (not a word since I left home) I was just a little more than pleased to get them. I might as well tell you something that I did not tell my folks and that is that I took sick on the San Joaquin river trip and was hardly able to get back to Shaver. I think that I wrote to you one Sunday while back on the river. I took sick the following week some time. I seemed to have neuralgia or something of the kind and could not eat anything for four or five days.

Sunday noon we started back again on the trail. I was just about able to hang onto the saddle, but we got nearly to the snow line and camped. I was feeling a good deal better the next morning and we made it through to Shaver. From Shaver I got sent back to Bench Meadow. This is about a thousand feet above Shaver Lake and is one of the prettiest camps I have found in the mountains. We could look down over the lake and clear out onto the plains. I camped with one other ranger. We took life easy and I soon began to feel a great deal better. Every night we had a little frost and it was so cold that we enjoyed setting around a rousing fire in the evening and we slept under three blankets, two comforts and a canvas. During the day we could look out over the valley and fairly see the heat. We could not see much of the plains as they were hidden in a sort of brown haze. I would just as soon have stayed at Bench Meadow the rest of the summer but I had to come over to North Fork to take the Forest Rangers' examination there July 23 and 24.

So I left Shaver last Sunday for warmer regions. We came down the old Italian Bar Trail and crossed the San Joaquin river again on the cable bridge. We got to North Fork again in the evening and I had to stay there three days to take the examination. I don't know whether I passed or not and don't care very much. Our papers had to go to Washington and it will be some time before we hear from them. There were ten altogether in the class. As soon as I got through the Supervisor sent me up to his upper camp. I left North Fork yesterday morning and made the climb up the hill by noon. It is certainly surprising what a difference ten miles makes in the climate up here. It is so cool that one keeps close to the fire at night and wears his coat in the morning. I am on the invalid list again today as I hurt my knee yesterday trying to shoe my saddle horse. I think I will be able to get around again tomorrow.

Well, I think I have told you enough about myself as it is certainly an uninteresting subject. I can sympathize with you so far as the hot weather is concerned as I still remember last summer. I wish you were up here in the pines for a while; you would certainly get cooled off. Sometime we will come up here every summer and listen to the sound of the wind in the big pines and the murmur of the water in the mountain streams—now please don't laugh at this, it's serious.

By this time Miller, it seems, realized he had found his calling. His prediction about sharing the beauty of the high sierra in summer with Bessie would come true several years later after they married. Also the 2-day Forest Rangers examination mentioned in the letter was no trivial test. It included both practical (horse packing, horsemanship, surveying, timber cruising, etc.), as well as a written exam covering rules and regulations, and mathematical problems relating to timber measurements and scaling.

Nowhere in Particular, Aug. 4, 1907

Dearest Bessie:

It seems like a long time between letters and I guess that you have reason to think so too. I believe that I told you in my last letter that I was going to do better and be a little more prompt. As this is Sunday again and I have my own time, I will do the best I can.

It is Sunday afternoon but so different from a Sunday at home that it reminds me of Kipling's poem "Christmas in India." I am still at the upper camp doing nothing in particular. This morning I worked about the office for a while and then stayed around and helped cook dinner. This afternoon I felt like I wanted to get away so I saddled up and started out to see if I could find a little of "Nature's Solitude." There is plenty of it around here and I did not have to go very far to find it. I rode down an old mill road through some groves of splendid big sugar pines and finally came to an old deserted mill site. The mill burnt down some years ago but

some of the old cabins are still standing. In some ways the place suggests Goldsmith's Deserted Village. Back of the mill is a little meadow with big pines (I am in the shade of one now) all around it as green as a lawn and covered with white and yellow flowers. I know if you were here you would call the place pretty. But you see I am all alone, or rather, my saddle horse (out feeding on the meadow) is all the company I have.

Well, I don't think I will enlarge much more on the beauties of this place as they have to be seen to be appreciated. I would give a good deal to be down in the valley, for about a day and get some fruit to eat. I have almost forgotten what peaches look like. We will begin to have a few ripe gooseberries and elderberries after a while, but down in the valley we wouldn't think of eating such things.

We are still having plenty of excitement up at the camp. Mr. Pinchot, the Chief Forester from Washington, came up here last Saturday with the Chief of the Survey and a few more big men from Washington to stay a few weeks. The Secretary of Agriculture is expected in a few days. Last Tuesday I was sent over to Shaver again to take over Mr. Page, a writer from the World's Work who is out here gathering material on Forest Reserves. I came back by the Italian Bar on the San Joaquin River and had a little taste of hot weather. I was glad enough to get back here in the pines again.

I expect I had better be finding my way back to camp or I will be too late to get anything to eat.

Love from John

Letters were less frequent now that the field season was winding down. Instead of once a week they were now monthly.

Billy Brown Meadow, September 3, 1907

Changing the subject—I would like to pick grapes myself for a day or so just to get filled up on them. I have had just one bunch of grapes this summer and they made me think of home. I certainly do get hungry for fruit but have to make up for it eating venison.

I found it warm enough down at North Fork yesterday morning. I climbed the hill and got up here about three o'clock. Then it started in to rain and rained some during the night. We got our tent up just in time and are now prepared to let the rain come down as hard as it wants to.

I don't see much show now for getting home before December 1st. The Foresters Convention is to be held at North Fork instead of Fresno as originally planned. I have a notion to "jump my job" and come home anyway.

Tuesday, October 1, 1907

I am still up at Billy Brown Meadow herding shake makers. I would like the job alright if it wasn't quite so lonesome. There will be another man in to help me before long, but I can't tell how soon.

The deer season is still on and I have been out hunting for several mornings. I missed a shot at an old buck yesterday and I have been feeling pretty bad about it ever since. One of the shake makers captured a bear here last week. The coyotes howl around my camp every night and make it seem lonesome and dismal indeed.

Last week it was warmer than usual and I was able to stay around camp without freezing to death, but last night it was so cold I could hardly sleep. There was ice on the spring when I went to get the water this morning.

By late fall, Miller was again enrolled at Stanford, but there were no known letters until April. He did not say why he returned to the university. He might not have passed the Ranger examination and realized he could profit by obtaining a university degree.

April 13, 1908.

As usually happens about this time of year, my university work is piling up so that I can hardly see my way clear ahead. The final examination begins three weeks from next Thursday and will be over the following Wednesday. I will have to stay over until the last day to take them.

I am becoming perfectly heathenish too. I did not go to church this morning. My only excuse is that I stayed at home to work on another Journal Club article that I have to give next Tuesday. It is not altogether my fault that it happened this way it did. I selected an article some time ago on ants and had it partly worked up. In the mean time though another member of the class (there are only four in the class) selected the same article and arranged with the Prof to give it two weeks from last Tuesday. So I had to select another which I did last Friday and began work on it Friday night. I worked on it all last night and all this morning and I think I can finish it by working tonight and Monday night. The subject of it is on the artificial fertilization of starfish eggs. That doesn't sound very interesting,

I know, although I find it intensely interesting after I get started on the subject. A scientist in the East by a series of experiments used certain chemicals and the influence of heat to start the development of unfertilized eggs. It was supposed that these eggs would never develop except under the fertilization of the male so his results are quite contrary to the commonly accepted laws of biology. But I won't bore you any more with this kind of talk, as I know that you are not interested.

I think I have my plans pretty well made for the next year unless something new turns up to upset them. I expect to come back here and do one year of post graduate work. One reason why I made up my mind to do this is that I had the place of assistant in the entomology laboratory offered to me which will take care of the financial factor in my staying here. And besides it will give me a chance to do some work and possibly get an advanced degree which is something else that I very much want. I will go back to the mountains for the summer as I have agreed to report at North Fork by the 20th of May. I can make this fairly easy as the senior class have decided to cut out their commencement exercises. This is on account of the recent trouble we had with the student affairs committee. Thirty members of the class were "fired" so the class thought that they ought to choose some appropriate means of their grief.

Miller obtained his Bachelor of Arts degree in Zoology in May, then was off to the Sierra National Forest for another summer and fall of work as a field ranger. His next letter was written after he returned to work in May 1908.

Sunday May 26, 1908

But to get back to what I started to do which is to write this letter. I left home last Monday morning on horseback en route to North Fork. I supposed that I would have to make the trip alone, but just as I was starting, Dr. Acers brother (whom I knew at Stanford) rode up on the Doctor's horse. He wanted to ride along with me and before we had gone very far, he decided that he would like to go clear through to North Fork. So we stopped at the first ranch we came to and he telephoned to his brother that he was going and came on with me.

We got to Humphrey's station after dark but they refused to take in anyone so we had to camp out. It rained during the night and I had a good canvas so we didn't get particularly wet. The next day was cool and pleasant so we made good time and got to North Fork that evening.

I seem to have suffered somewhat from the change in climate. The first two days that I was here I wasn't able to do anything much but work around the office. Acker went up to Shuteye and started for Reedley Thursday noon. Friday I took some contracts up to the shake camp at Shuteye and came back yesterday. The trip up into the cold gave me a good deal of an appetite, and I feel all right now. I am about rid of my cold at last!

It certainly seemed good to get back into the big trees and the high altitudes once more. I had to cross some snow drifts that were three or four feet deep. The air feels fine and the odor of the sugar pines puts new life into the blood. The snow was fast disappearing and then there are the snow plants. I wish I could send you one. They are the most peculiar sort of a flower. Some times they come up where the snow is very thin, which makes them very conspicuous as they are bright scarlet in color.

I was in hopes that I would get to put in the summer near here or at least get to go back to the Shuteye camp, but it seems as though I have developed an undue amount of popularity while I was away and I am wanted now in a number of places. Mr. Shinn's first plan was to keep me at the office as a sort of assistant clerk, but he says that more pay involves more responsibility so he is going to put me in as scaler at Shaver. In some ways it is one of the best jobs on the reserve. One has an excellent opportunity to learn how to scale timber and if the work was such as it was last year, it only takes about three hours per day. I don't know whether you know what scaling is, but it consists in calculating the board feet in each log that is bought of the Government by the mill company. It consists mostly in book keeping but it is much simpler. I will probably have to be going down to Shaver about the last of this week and the mill there expects to open up about the first of June. The scaler is in charge of the Government end of the cutting—hence the responsibility.

It was quite warm down here at North Fork yesterday and warmer yet today. Still the nights are always cold. It never gets hot like it does down on the plains. I think I like the North Fork climate better than any I have found yet.

Now I will have to go and catch my horse and take this letter down to the P.O. so that it will get away on the stage in the morning. I don't feel like

J.M. Miller family

Figure 15—Bretz Mill, Shaver Lake, 1908.

writing a decent letter this afternoon anyhow. I wish so much more that I were down at Parlier.

Yours lovingly, John

Miller's letters about his Forest Service life and duties are classic history of the fieldwork of that era. They are worth detailing here because they also show how this background helped shape his future with the Bureau of Entomology.

Shaver, Sunday afternoon, 06/10/08

My Dearest:

I have been trying all day to write to you but so far have failed. I intended to write sometime during the week but various things came up to interfere. I guess I will have to tell you something of my wanderings during the past week so you can understand what my difficulties were.

I left North Fork last Monday morning in company with the Technical Assistant Tomkins, an assistant State Forester named Smith, and Ranger Noddin. I had been about sick for the past two or three days, due I think to the board I was getting at the North Fork Hotel. I haven't tried to batch any since I have been here this summer. I soon began to feel better after I made the trip and it was so cold at Shaver that it seemed as though winter was starting in again. Cold frost and ice every night. I could not begin scaling as the Lumber Company were behind with their logging. So the first part of the week I went with the party up to McRanger's Mill where we surveyed and estimated timber for two days. Then we went down to Petersen's Mill about 15 miles below Shaver where we did two days more of surveying and estimating. Friday I went over to Camp Seven, and stayed, but they will not begin to log until tomorrow [fig. 15].

Camp Seven is about four or five miles from Shaver. The place where they are cutting Government Timber is on the rim of Blue Canyon. I will have to stay here for three or four weeks yet until the sale is completed. Then I don't know where I will be, but I have an idea that Mr. Shinn will want me back at North Fork.

Living in a logging camp is something awful, but it is about the only thing I can do so I have to board there. I hope soon to have a government tent to myself, which will be much more pleasant. They have "Chinamen" for cooks at camp seven where about 148 men stay . . . .

This morning I went down to Shaver and rode by the old Sage Mill. It is about a mile and one half from the camp and it has a sort of attraction for me, as it was the first place I ever camped in the mountains. I was there just ten years ago this summer. It was that camp trip that gave me such a liking for the mountains, and I have always wanted to go back ever since. The place has changed decidedly. The Mill, of course, has gone, but some of the old cabins still stand. The timber has all been cut away and it makes the country look barren in places. I did not get back from Shaver until four o'clock, and that is why I am writing at this late date.

I don't remember whether I told you in my last letter that at last I have an A.B. and sheepskin. I received my study card about ten days ago and I drew a straight + on all my sixteen hours of credit which brought me up to 120 necessary for graduation. Then I had a notice that my name was read off at Commencement with the rest of the graduates. So, I guess I can get my diploma whenever I want to claim it.

It doesn't mean very much but then you know there is a certain amount of satisfaction in knowing that I have earned it. It is one thing that I have done that stands completed and cannot be taken away from or added on to. And then it helps some too in almost any kind of work that one goes into both in the standing that one gains by it among other men and the training helps one to get hold of the general principles of any new proposition readily.

But, at the same time I know that College training alone can never carry one successfully through life and whatever I can do in the way of a vocation will depend entirely on my own efforts. I am still pretty much at sea about the kind of work that I can do to the best advantage. I am determined to go back to school again next year and

work out a high school teacher's certificate. I started out to do that a few years ago, and I always like to accomplish what I start out to do. I can get another leave of absence here without losing my standing in the Forest Service. Then, next Spring, I am going to try the technical examination in forestry and if I can pass that and get a high school certificate, I will have two lines of work that I can depend on for a living. I wish I could combine the two and teach forestry!

But, why ramble on this way! It probably doesn't interest you particularly. The reason that I happened to get started on the subject was probably due to a talk that I had with the assistant state forester Smith. He advised me strongly to try the technical examination. Said that if I could pass the technical exam after the experience I have had in the ranger's work, my chances for advancement in the U.S. Forest Service would be excellent.

Miller was beginning to have some doubts about a permanent career in the Forest Service, but perhaps some of this was due to rough camp life and loneliness.

Sunday afternoon, 06/19/08

I have been scaling for a week now and so far I have found that it is pretty much of a lazy man's job. I have to go to work at half past six in the morning and quit at half past five in the evening, but the work consists in sitting around in the shade most of the time. Nothing to do only scale a few logs once in a while as they are pulled into the chutes. I don't think that I care very much for the job but it won't last more than two or three weeks more although I shall probably have to stay here for a month yet before the cutting is finished.

I suppose that your school is over now for the summer and I know what a feeling of relief it will be tomorrow morning to know that you don't have to go back to the round of studies again. I know that I was glad enough myself when I got out of school in May, and I had only been there for three or four months. Now I know that I can expect your letters regularly from now on although I have had little reason to complain on that score recently.

I am glad to know that you are coming to the mountains and you can just bet that you will see me if you are any place near Shaver. I hope you will let me know when you are planning to start so that I can know when to expect you. I am sure that you will like it up here if you find a pleasant place to camp.

I wish that I could get a leave while you are up here but I suppose that I will have to stay on duty. Anyhow I will have my evenings and Sundays.

Monday evening:

As you see, I did not get this letter finished last night. The candle burned out once so I had to give it up and besides I was somewhat sleepy. I am sorry that I did not get it mailed today for I know that letters are long enough on the road when they are mailed here. This letter ought to get the Wednesday stage down and if nothing delays it should reach you Thursday—a little late, I know.

How do you like the way my new fountain pen writes? The pen I am sure is much better than the writer. I lost my own pen the first day that I scaled so I sent into headquarters and they sent me one of the Forest Service pens. It works very well but has a stub point which I don't like. But back in this country one has to take what they can get and be thankful they have it.

Yesterday and today have been quite cool compared with some days last week. The cold weather I hope is over for this summer. Friday and Saturday it was quite warm out in the sun but it is always cool in the shade.

I don't like to stay at a lumber camp as well as I did camping out at Shuteye last summer. This country is not so pretty anyway. It was once, but it is being rapidly ruined by the lumber men. The F.F. and Irr. Co. cut down every stick of merchantable timber on their land and then bury the slashing so there is little left but a barren waste when they are through.

Somehow I don't seem able to write an interesting or a concentrated letter tonight. I am afraid that I will have to give it up. The camp fire outside the tent is burning low; it is after nine o'clock so I think I will turn in.

Wie immer, Hans

Wednesday afternoon, 7/5/08

My Dear Bess:

In as much as my end of our correspondence has been somewhat disjointed and intermittent of late, I guess it is up to me to explain. I did not write last Sunday but I think that you have heard from me since then. I moved up to MacKenzie's Mill yesterday and I did my first day's work today; that is if one has the heart to call it work. I think that I put in about an hour and a half altogether in actual time.

J.M. Miller family

Figure 16—Miller (right) and unknown person scaling sugar pine at Bretz Mill, 1908.

> The reason for my coming over here I think was due to the fact a certain amount of trouble has arisen between the Government and the company on this particular timber sale. The rangers and the company men have been at sword's point for some time. It was finally decided that the best way to settle the friction would be to put in new men altogether and so it happened to fall to my lot to be one of them.
>
> It also fell to my lot to be scaler and I seem to have won quite a home [fig. 16]. We scale the logs in the rollway of the mill and as they accumulate there before they are taken on the saw, we only have to scale about three or four times per day. It is extremely "easy" work but it gives me an excellent chance to study forestry and lumbering and I am going to try and make the most of it.
>
> I don't suppose that I will see North Fork again this summer until I leave to go home, although one can never tell what is going to happen to him when he is on this work. I think I will like it here very well. We have a good cabin to stay in, a good place to board and plenty of time to read and study. I do hope that your plans for coming to Shaver will carry through. I think that we can surely have some good times up here "boating on Watoke lake" only it will be Shaver lake this time. It is a good deal of satisfaction to have Roscoe up here for I feel like I can see some one from home occasionally. We are planning a trip back to Dinkey Creek for the Fourth of July, where we can see the Big Trees and go fishing. We expect to go up Saturday and come back Sunday. I wish that you could go along.
>
> Your letter came in on the wagon this afternoon; a little bit late as it went up to camp 7 and back. I will have to give you another address for my mail. Instead of camp 7, just put on MacKenzie's No. 7. I have to be particular as there is a J.W. Miller here in the U.S. Geological Survey. I got some of his mail today by mistake. Miller is an extremely common name as you will learn some day after you have adopted it.

Miller wrote again 2 days later. His easy work as a scaler allowed more time for writing and probably his self study of forestry subjects. However, it was not all work and no play for the rangers. Miller was a sportsman, and living where he could fish and hunt was a definite plus for him.

> 7/7/08
>
> I might as well tell you something about the trip. I have been waiting to go fishing all this spring and as we had two holidays coming together, the fourth of July I began to plan a trip for that day two weeks ago. Another ranger and myself talked of going back to Dinkey Creek but we finally gave that up owing to the reports we had heard that there are very few fish in Dinkey Creek. After Roscoe came up we planned to go back to the Big Trees or some place the Fourth, but we did not get our plans completed until just the day before. We finally made out our party consisting of the ranger I am staying with now, Roscoe, and me. I got through work about four o'clock Friday evening and we took the trail then and rode over the ridge to Tamarack Creek where we camped about dark that evening. The next morning we tried fishing in Tamarack Creek but the fish were rather small and did not bite readily so we packed up about nine o'clock in the morning and started for Red Mountain Lake. Red Mountain is one of the higher peaks of the Sierras about 10,000 ft. in altitude and about thirty miles back to Shaver. It is in a region where a number of small mountain lakes abound. We had three saddle horses and one pack mule in our train so we had to look for a camping place where horse feed would be plentiful.
>
> We reached Red Mountain Lake about noon, but we found feed so scarce that we kept on and

tried Coyote Lake which was about two miles further back. This is a beautiful little lake, about a mile in length lying at the foot of a big granite mountain. Snow was still lying about the edges of this lake, and owing to the altitude and the cold feed was very scarce. We decided to go down then to Big Creek and camp on Long Meadows. These were also quite a distance below Coyote Lake and consequently some warmer. Our first view of these meadows convinced us that we had good fishing and good horse feed, so we made camp, cooked some dinner and about three o'clock started down the creek with pole and line. So few tourists get back into this country that the fishing is but little molested. We had about as good sport as I have ever enjoyed. My brother ranger is an expert fisherman and caught the limit. We returned to camp with a catch of about seventy and proceeded to fill up on trout. I had all I could eat for once.

We tried our luck again the next morning but the fish did not bite nearly so well. About ten o'clock we packed out of camp again and decided to go home by another trail. We were not so very sorry to leave the meadows as we were bidding farewell at the same time to our friends the mosquitoes. It may seem strange to hear of mosquitoes in the high mountains, but they are quite in keeping with the size of the trees. They are the biggest and most bloodthirsty I have ever seen and they fill the air in clouds. Unless one keeps in fire smoke or wears a veil it is almost impossible to enjoy life on account of them. My face and hands were sore and swollen on account of the many punctures I received.

We climbed up to the head of Dinkey Creek and about noon passed Dinkey Lake. This lake is not quite so large as Coyote and is set in a little valley at the foot of the Three Sisters—three needle like granite spires which have snow on their flanks most of the year. From here we worked down the canyon of Dinkey Creek. This is a rock walled gorge and the trail is rough and dangerous in places. We came out over Bald Mountain down to Markwood Meadow and reached camp 7 in time for supper. I went around to Sulfur meadow and stayed with Roscoe last night. Got up at four o'clock this morning and walked up to MacKenzie's Mill in time for breakfast.

Mosquitoes! The bane of the forest worker.

July ?

My Dearest Bess:

I believe I said that I would write the middle of this week and as this is Wednesday morning I guess that it is about time for me to begin. There has not very much happened to relate since I wrote last, except a fire that broke out in the woods here Monday night. I haven't had very much experience yet with forest fires and this is the first one that I ever helped to extinguish.

I was about as sleepy as I ever want to be when I got to bed that night. I had just been out on our fishing trip for three nights and did not have a chance to get much sleep. I got up at four o'clock that morning and walked up here before breakfast. About eleven o'clock the night watchman rattled on our door and told us that there was a fire up on the hill.

It was like pulling teeth to get up, but I finally succeeded and climbed about a mile and a half up the hill where the fire was burning. It had not started very badly and with a force of about fifteen men we soon had a fire line around and the fire under control by two o'clock. The most of the crowd went back to camp and went to bed, but two other men and myself stayed up to guard it. It broke out on us once but we had it out before it got very much of a start.

At six thirty another guard came to relieve us and we reached the cook house in time for breakfast at seven. I was so tired and sleepy that I could hardly find the way home. I scaled up the landing in half an hour and went home and went to bed. I slept until noon, got up for lunch, scaled logs for an hour and went to bed again. I expected to have to watch the fire again last night, but it was so nearly out that one company man was enough for guard. I caught up on sleep last night and am taking it easy today.

Miller's next letter tells of a health problem miles from medical help. It may have only been a toothache, but the early rangers did not have a medical safety net like today.

July 27, 1908

My Dearest Bess:

I hope that you will excuse the official looking heading on this paper but it is all I have in camp and I am sure you don't want me to wait until I can get some more before I write.

It may seem rather selfish to begin this letter by relating my own troubles, but I know that you must have expected a letter before this and I will have to let you know that my excuse for not writing was a good one. Your own good letter (which I have reread four or five times already) came Friday and it still further helped to remind me of the fact that my letter writing duties have been sadly neglected this week.

The trouble is that I have been trying a little experiment with that peculiar affliction known as the toothache. The results were that I did not get any sleep for three nights and had a case of that "don't care whether school keeps" feeling. Thursday night my pardner had the toothache so bad that I stayed up until twelve o'clock trying to relieve his suffering with hot applications. The next day I did not feel very well and by night, I did not know that I had so many teeth in my head. They were all insistently making their presence known and I had to stay awake all night just thinking it over. The pain did not let up until last night and then one side of my face began to swell. Last night I slept some better and aside from a certain lack of balance about my physiognomy felt fairly well.

I started once to write to you yesterday but I felt so bad I had to give it up. The weather for the past week has been decidedly hot for the mountains. Last night about 12 o'clock one of the worst thunder storms came up that I have ever seen. We had several bad peals of thunder that were enough to make you think the world was coming to an end, and then for a little while the rain poured down. It must have rained nearly half an inch, for this morning the dust is nicely settled and everything seems fresh and clean. The air feels fresh, like it did two weeks ago today when we started for the Big Trees that morning. I wish that we could have a shower like that every night. I believe that one would feel far better than in a dry climate.

We have been considering the question of building a kitchen on our cabin and doing our own cooking. The board at the cook house keeps getting worse and the four of us are convinced that we can board much better if we "batch." And then besides we won't have to get up at such an unearthly hour in the morning. We have breakfast at a quarter past five and as a rule we don't have to go to work until nine o'clock. Besides, as we only have to work two hours per day we will have, more or less, time to do our cooking.

I was planning a deer hunt back in the mountains for yesterday and today, but my pardner and I had to give it up owing to certain dental complications. If we had gone, I am sure that we would have had good luck, for a rain such as we have had always makes fairly good hunting. I want to go back to Dinkey and Coyote Lakes again before I leave here and get some pictures of the high mountain scenery. I failed to have a camera when I was there before.

Miller's interest in photography started at an early age and continued throughout his life. The official photography files of the Bureau of Entomology contain hundreds of his photographs. Many of the pictures are used for illustrating this book.

August 18, 1908

My Dearest:

Here it is Tuesday morning and I have not written yet. I would have written Sunday but I went down to Shaver and from there to Ockenden. Then I stayed to hear the meeting at Shaver in the evening and did not get home until nine o'clock. An outdoor meeting of the anti-saloon league was held at Shaver and they had a very good attendance. The speaker was Mr. Bristow, whom we heard down at Parlier last winter. He is an excellent speaker and I think made a good impression. It helps the League to have as good a man as that working for it.

I was getting ready to do some writing yesterday when the district ranger came around and I had to go back in the woods to mark some timber for cutting. Then I found that I had some back scale cards to correct which took me most of the afternoon. After that I got out with Parkinson for some rifle practice and then the day was gone. I have been planning to use this week to catch up with my correspondence and do some reading and I guess that I will succeed if nothing goes wrong.

I have been trying to get my plans settled for this fall but it seems like a pretty hard thing to do. I am more at sea than ever. Mr. Shinn was over here about two weeks ago and I had a talk with him. He seemed to be opposed to my leaving in September and wanted me to stay here this fall until this timber sale closes and then go back to North Fork and stay until Christmas.

I don't want to make any decisions yet until I can hear from the University and see if I can

arrange my plans there accordingly. I rather favor staying here this fall if I can do so without seriously interfering with my University courses; for nearly every move that I have taken in the Forest Service so far has been for the better and I feel disposed to give it a trial before I quit. "A bird in the hand is worth two in the bush," so I have heard and I don't like to give up this position until I am sure of another. Besides, there is the possibility that some opportunity may open up for a better position in the Forest Service and that will be this fall if it comes. I hate to think of waiting until November though to go down to the valley but then I will see you twice this fall anyhow, which is better than I have been able to do any year yet."

His spirits rising, Miller seems to feel more optimistic about his future with the Forest Service. Besides, he needs a steady job before he can marry Bessie. And deer hunting season was on. Decisions, decisions!

August 27, 1908

I don't suppose that you care to hear very much about the hunt. I always seem to have periodical spells of the hunting fever about this time of year and it takes two or three good trips to work it out of my system. This time Parkinson and myself took our horses and rode over to Tamarack creek which is about ten miles across the ridge from MacKenzie's Mill. It was after dark when we reached the creek so we had to camp without horse feed as best we could. It is quite a bit colder in the Tamarack basin than it is at Shaver and when we woke up in the morning there was four inches of ice on the water pail that we had left by the fire.

We started out at day break the next morning thinking that we would find some buck signs near the head of the creek. There is something exciting about buck hunting that does not depend on whether you find the deer or not. Getting out at daylight on a cold frosty morning may not seem particularly inviting but you feel fully repaid for it before you are out an hour. Climbing around over the high rocky ridges where the bucks range gives you chance to see some magnificent sights. And then, there is a certain excitement that belongs to the hunting, for you have to be on the alert, all the time.

About nine o'clock we struck a trail and had not followed it very far before we startled a big buck, but it was in the timber and we did not get sight of him. We followed his trail until three o'clock in the afternoon when we jumped him again out of a fir thicket where he had bedded, but he had been watching his back trail, so we missed another chance of seeing him. About four o'clock we started him again out of a little meadow but it was getting so late that we could not follow him any longer as we had to head for home. We had walked nearly twenty miles and had not seen a deer, but I think that we went home just about as well satisfied as if we had. We are pretty well acquainted with the country and the buck now, so we will go back in a week or two and get him.

I am still postponing the matter of my going back to Stanford until I can hear from some of my friends at the University. I don't think it pays to decide on anything like that too soon for sometimes if you let it go it will settle itself.

This is my week to watch the woods so I will have to ride out pretty soon but I am going to finish this letter before I go. I am glad that you have decided to finish school this year. It may seem like a waste of time in some ways, but I know that you will never regret it. I have often felt that I could have done better in some ways if I had not tried to finish school, but I am very glad now that I stayed with it.

I was intending to send the rest of the party a set of those pictures only I have not had a chance to print off any of them yet. My developing outfit is over at North Fork but I expect to make a trip over there in a few weeks and I will try to get some of them printed.

We are getting along very well now batching and hope to do better in a few days when we get another buck. We are going out hunting again tonight. A peddler comes up to the mill about once a week which gives us a chance to get fresh fruit and vegetables.

In his youth Miller enjoyed deer hunting, but later in life he did not hunt and did not seem to miss the autumn buck fever at all. One thing he did enjoy was watching sporting events. His later diaries are full of entries noting football games, especially between Stanford University and the University of California, track meets, and baseball games.

September 6, 1908

We are expecting Mr. Shinn over in a few days and I hope to get my plans straightened out after I have another talk with him. I hate to think of leaving this place in the fall for that is the time of year that I enjoy the most in the mountains. I don't think I ever felt better in my life than I feel now since the cool weather has set in. I have gained 7 pounds in the last two weeks.

The big traction engine, that has been causing so much excitement on the hill has just arrived in camp. It was brought in here to haul the lumber from MacKenzie's Mill down to the flume to Shaver. Everyone has been speculating on whether it will ever be a success or not.

2:00 P.M.: I failed to finish this letter before dinner as my pardner came in with a mess of mountain quail and I had to stop and clean them. The quail season is open now and the mountain quail are in fine condition and very easy to get. I think we will have plenty of them from now on.

Yours as ever,
John

This is the last letter known from Miller that fall; the next series starts in January at Stanford University. Evidently Professor Doane was pulling at him one way and Supervisor Shinn, the famous first and long-term supervisor of the Sierra National Forest, wanted him to return to his staff. It says a lot for Miller that both academia and a field agency wanted him as the year 1908 came to a close.

CHAPTER 6: The Early Forest Service Years, 1909-1910

Miller's letters indicate he did return to Stanford University to pursue an advanced degree. But in January his thoughts were with obtaining a permanent Civil Service appointment with the Forest Service.

January 27, 1909

Mr. Shinn was here Tuesday night and lectured the Forestry Club. It was a wild sort of a night, pouring rain and other conditions which kept a good many at home, but on the whole the meeting was very well attended and every one seemed to enjoy Mr. Shinn's talk, although he discussed everything from forestry to the Platonic theory of life.

If I can arrange it I expect to go back to North Fork March 1st. The Examination (Forestry Assistant) will be held next April 14th and 15th and I will have to come to San Francisco or San Jose to take it. If I go back to North Fork the last of March it will hardly pay me to come back here again. I have very little to gain by staying here much longer and besides I want to get back to work and earning something like a decent salary again. So if I can get my leave of absence revoked for a month sooner than I had it extended, I hope to leave here in about four or five weeks. So if everything goes well I will not have to wait so very long before seeing you again.

Once more; it is now twenty minutes after eleven but I am going to finish this letter before I go to bed. I went back to the quad after supper and ran a typewriter until eleven o'clock. I am copying off a set of notes that I got from one of the State Foresters last summer. There are about 15,000 words so I find that it is quite an undertaking.

For once I do not find myself wishing for a buggy ride, although I surely would if climatic conditions were only a little different. I don't believe that I ever saw quite such a spell of weather—the nearest to it that I have ever seen was down at Pacific Grove two years ago when it nearly washed the town down into the sea. We have had rain steady now for two weeks and no sign of any clearing up yet.

Did I tell you I had a rather startling experience last week. Took dinner with Dr. Jordon!! [Stanford University President] The invitation included four seniors and graduates from the Zoology Dept. But it was not a very distinguishing honor as the Doc. occasionally invites upperclassmen.

I will either have to build a fire or go to bed or freeze to death. Considering the hour of the night, I think I had better go to bed.

Forever yours, John

Was Shinn doing a little recruiting at Stanford, specifically for John Miller? If so it says a lot for how well thought of Miller had become. It appears Miller also had the outdoor forestry work in his blood and was loath to become a city dweller.

February 8, 1909

My dearest Bess:

It is such a cold disagreeable night that I am remaining peacefully at home instead of going to church. We are certainly having a most unheard of winter. It rains all the time. Today has been worse than usual. It hasn't rained steady, but there has been a cold wind all the time with occasional showers of rain and hail. Outside it is raining now.

I went out to the University Chapel this morning expecting to hear a good sermon, but was more or less disappointed. It was announced that Dr. Jordan would talk on Lincoln. We are to have a holiday next Friday, Lincoln's birthday so this was a very appropriate time for such an address. Dr. Jordan, however, was not there for a very unfortunate reason. His daughter, Miss Jordan, who is a teacher in Los Angeles High School, was engaged to be married in a few months and her fiancé died very suddenly yesterday. It was quite a blow, I think, to the entire family.

So, instead of hearing Dr. Jordan, I had to listen to . . . the regular Minister which to say the least is something of an ordeal.

I have only three weeks left in which to get to North Fork and I am sure I will have to keep moving between now and then as I have a good many things to do. I am not altogether certain what is going to happen to me when I get there. I had another letter from Mr. Shinn last week saying that he was expecting matters to turn so that he could put me in charge of a District, March 1st. In that case he said, that he would recommend me for $1200.00 July 1st. I certainly will not object to that; at least not to the raise in salary. In that case he wants me to agree to stay on for a year, but I am hardly ready to promise that yet. Something else may turn up that I want to go into. I will explain

things a little more fully when I see you. I wish that we could talk it over tonight, but then, what's the use of wishing. It don't do any good.

The intercollegiate Carnot debate was held here last Friday night. Of course Stanford won. The medal this year went to W.C. Shelton, a brother of the Shelton who won it last year. They are both old Fresno boys and both seem to have remarkable ability along the same lines. Berkeley was completely outclassed by all three of our men! This makes the fourth consecutive year that Stanford has won this debate.

The Forestry School at Stanford seems to be on the point of going through. The Trustees have the matter under consideration now, but they won't make any decision for a month yet. It will take some time to get the school established, even if they decide in favor of it.

It is getting too cold to sit up much longer. I think I will have to call this a letter and go to bed."

As ever yours, John

Miller was an avid supporter of Stanford University, especially in any and all events competing with the University of California, Berkeley. As his career progresses it is interesting to see where he ends up.

February 15, 1909

My Dearest Bess:

I am sitting here listening to the gentle patter of the rain drops outside, and although it is not calculated to give one a very cheerful inspiration, I will do the best I can to write this letter. For a wonder it did not rain today, although it has been promising to all afternoon; but of course it is out of the question to let 24 hours go by without rain so it is setting in again tonight.

We had a holiday last week owing to the fact that Friday was Lincoln's birthday. The University had an assembly in the morning which was very good. Rev. Bert Estes Howard gave the best talk of the morning on "Lincoln, the Man." Dr. Jordan also spoke at some length.

At the close of the meeting, Mrs. Maud Wood Park of Boston spoke on Women's Suffrage. What do you think of Women's Suffrage anyway? I rather think that I liked the way this woman spoke better than I like her cause, although that is alright. She was certainly a very entertaining speaker. In the evening the Y.M.C.A. gave a smoker, which consisted of a number of athletic events, some music by the orchestra and a talk by Dr. Jordan. The affair ended up with a feed of peanuts. The Y.M.C.A. has a much larger membership this year than ever before, and they are working to get a new building. The Stanford Memorial Church is at last reduced to a huge rock pile about the foundations and is about in the same stage as when they began its construction ten years ago. It seems like a shame that a building so beautiful and which cost so much money should have to go that way. It is all clear loss to the University—the money would certainly have done far more good if it could have been spent in some other way.[1]

I wish that I could have been down home and gone to the league social with you. I don't believe that we ever did go to a social together. Still, I hardly have time to think about socials or anything else just now. It keeps me going until eleven o'clock every night to keep my work in shape. I am trying to get the dope on my examination worked up before I leave here so that I won't have to study so much when I get to North Fork. I am wondering where I am going to be and what I am going to do when I get there, but I suppose I will have to wait patiently to find out.

Lovingly yours, John

February 21, 1909

My Dearest:

I am about a day ahead of my schedule this time, but as I am writing letters tonight, I will try and finish this one before I go to bed. This is probably the last letter I will write to you from Stanford for some time to come; perhaps the "very last" one and I certainly hope that it will be the last one I write you from here.

I was in hopes that I would have a chance to see you before I have to write another letter, but I am not so sure about that. I will have to go to North Fork before I can come down home. I have to report there the 1st of March and I can't get away from here before Friday, so it just leaves me Saturday to get into North Fork on the stage. However, I expect to come down the following week as I have to come down to Reedley to get a horse and outfit.

I will have to put in the most of tomorrow I think getting packed up and ready to leave. It seems to me that I never have a chance to do

[1] This was a result of the 1906 earthquake.

anything but pack up and go. About as soon as I get settled in one place, something always happens that I have to get up and go again. I am afraid that it will always be that way for some time to come according to the way that I am planning things at present. (I know I ought to say "We" are planning, for your approval will have to rest pretty much on my plans from now on).

I somehow feel that I am leaving Stanford for good this time. Of course, I may come back some time for another semester's work but I think that I ought to give the Forest Service at least two years trial before I leave it again. There is the possibility that I may make good there and work into something worth while and besides I have made up my mind to pass the Philippine Service examinations in two years. I know that it is a pretty hard thing to look ahead and tell just what is going to happen, but at present I intend to go into the Forestry work and see what I can do at it. All my opportunities seem to be along that line and everything present seems to oppose my ambitions to become "an old maid school teacher."

We had two fine days this week that gave me the "mountain fever" and made me wish that I were back in the hills again. Yesterday and today however there was quite a decided change and we are having the usual storm and cold rain. I will probably run into some snow before I get to North Fork.

Thursday I went through the arboretum with Professor Dudley to look over the conifers there. I think that I have enjoyed my work and association with Professor Dudley more than anything I have done this year. It has largely compensated for the six months that I have spent here. He is certainly one of the finest type of men that I have ever had the pleasure of knowing. I had expected to work with Professor Kellogg, but he did not return last semester as expected and is still on his honeymoon.

Miller's ambitions were clearly toward the Forest Service appointment now that decision time was upon him. And, spring fever for the mountains was also tugging at him. One can sense that he had the intellect to become an academic, but his heart was in the Sierra Nevada. In undertaking this course of action, he needed equipment and transportation. Forest Service men had to provide their own riding and pack horses at that time, so Miller was casting about for some good horseflesh to get him over the rough Sierra trails.

February 8, 1909

Dear Friend John:

I believe that I have that location of a good (one of) horse flesh for you if you want to go as high as seventy five dollars. It is a five year old mare, raised in the mountains, rides, drives and sound as a bell so far as I can see, and has the size. Cannot say much about the color, but I imagine that after she is shed, it will be blue roan.

The fellow who has it bought it from an Indian up above Squaw Valley, and has had her about two months. He drives her and works her. I saw her Sunday and if you want her let me know what . . . [page missing].

I am very busy. There is another dentist in Reedley so chances are that I will have more time for myself in future. I bought a coming three year old colt the other day for $100. It can go about four gaits and I am riding at leisure times and will show you something nice in horseflesh some day if my expectations are not overdrawn.

I hope for an answer soon and trust you will believe me.

Very truly yours, A.V. Acker

February 12, 1909

Dear Friend John:

I received your letter this morning and immediately rang up Mr. Huey and explained to him the circumstances in regard to the option etc. and your coming down the first of next month. He will not consider the option at all as the only reason for him parting with the mare is that he is badly in need of the money. Now I am sure that you could not buy a horse that would suit you better, and if you can repay me when you come down I will pay him the $75.00 for you, and let him keep the mare until you come down, if you want her taken to your father's place, will do that.

If I can help you out in this matter let me know, and I will do what I can for you and trust that you will accept friendship and assistance as intended.

Very truly yours, A.V. Acker

P.S. Will you kindly let me hear from you immediately by return mail. Arthur

Seventy-five dollars was a lot of money in 1909, so a good horse was expensive then just as they are now. Many horsemen preferred a gelding over a mare because horses from several outfits had to be pastured together or used together on the trail. It is not known whether he bought this

horse, but some of his later diary entries mention his mare, so I suspect he eventually purchased the horse.

March 9, 1909

I don't feel very much like writing tonight. They are having some music at the South Fork Hotel where I am staying now and the music always makes one homesick when I hear it in the mountains. I am rooming with Mr. Howard who came out here from Harvard last year. He plays the violin and some one is playing the piano with him. I wanted to stay in the parlor and listen but I knew if I did that I would not get this letter written tonight. And then it is tonight or never for I have to leave on my trip to Mariposa tomorrow and I won't have much chance to write letters until I get back.

I suppose that you might like to know how I got here, so I will try and explain my presence here before going any further. I went up to Sanger the next morning after seeing you. Of course I left on the 7:40 A.M. train. Somehow I always seem to leave on that train. I took the stage from Sanger up to Trimmer. It was quite a thrilling trip. We peddled hay and vegetables along the road and stopped once or twice to fish in the river. It is 28 miles from Sanger to Trimmer and it took us from 9 o'clock in the morning until 5 o'clock in the afternoon. I spent the night at the ranger's headquarters at Trimmer with my pardner of last summer, Bill Parkinson. There are three rangers staying at Trimmer this year. They have built a new house and are fixed up quite comfortable.

My principle [sic] object in going in there was to get the horse I had last year and this I succeeded in doing. The next morning I started out to ride up to North Fork. It was raining a little but I had a good slicker and it quit raining about noon. I stopped in the Auberry valley Thursday night and got into North Fork Friday noon.

Yesterday I was treated to my first experience in a snow storm. When I woke up in the morning it was raining but this soon turned off into a fine snow. In a little while we had the ground covered with several inches and in the afternoon, it came down harder. This morning when I got up (about 8 a.m.) it was one grand sight. The ground was white, the morning was clear and the pine trees were bending under their weight of snow. The day was so warm though that the snow all disappeared this afternoon. I took a two mile run with Howard this morning and a cold bath and have been feeling fine all day.

J.M. Miller family

Figure 17—Miller on horseback, Sierra National Forest 1909.

I don't much like to leave South Fork as it is a very nice place to stay. However I will have to start out early in the morning and spend the most of next week up in Mariposa County. When I get back I hope to stay here and work in the office until I go down below and take the examination. Then in all probability I will take the district up there.

Miller was a tall, long-legged ranger and the several pictures of him horseback showed his preference for long-legged, 15-plus-hands horses. From his outfit, as the old song goes, "I see you are a cowboy." That he also took a run with Mr. Howard indicates his fondness for athletic outlets (fig. 17).

March 16, 1909

I got back day before yesterday from the trip up north where I went to take a look over the proposed "District." Mr. and Mrs. Shinn drove over to Jerseydale in a buggy and the head cattle ranger and myself rode over. The trip was a little hard on man and horse, but on the whole it was exceedingly interesting and well worth while even if I did not intend to go back there soon.

The first day we rode through to Grub Gulch and stayed at the old hotel overnight. Grub Gulch is not a very classical sounding name and the town

does not disappoint your expectations after hearing the name. It is a relic of the old mining days. Several thousand people once lived there and worked in the old "Death Trap" mine and several other prospects near there. Since the mine closed down the town has naturally faded, and one by one its numerous buildings have been torn down and moved away.

There are still left several hotels and a store or two. One of the hotels is still kept up by one of the old miners who has not yet acquired the ambition to move away. Mr. Tully and myself ate our supper and breakfast in a dining room that had once seated over two hundred people.

Tuesday morning we rode over to Ben Hur, another town with a classical name but little else to speak of. We stopped at another ranger's camp for lunch and rode into the old town of Mariposa about seven o'clock that evening.

I think that Mariposa is one of the oldest towns in the state. It is almost as old I think as Monterey and has some of those old Spanish buildings that were put up by the Spaniards who first visited and settled in California. It is now the county seat of a county that lies entirely within the hills and is situated forty miles from a railroad. During the mining days it had a thriving population of five or ten thousand inhabitants. Now there are scarcely fifteen hundred inhabitants who are left to tell the tale of the golden days that once were.

Wednesday morning we went out to Rangers Camp and talked to a number of the dissatisfied residents of our National Forests. On the whole I found the people very nice and was never treated any better any place. I am not anticipating very much trouble in handling the situation there for most of the disputes that were causing so much trouble last fall are practically settled now.

I left there Thursday morning and stayed overnight at Fresno Flats and came on to North Fork Friday. Yesterday was a beautiful spring day and I worked all the time in the office when I wanted to be outside.

Just before I left on the mountain trip, I had a letter from the University saying that I had been recommended for a position as assistant entomologist in Hawaii!! I have had so many of these things turn up though, that I have little confidence in them and will believe that I have the job when I hear about it. On one hand, I told Mr. Shinn that I would take the mountain district if nothing else turned up. I am very well satisfied with his plans for me up there. He only intends to have me stay there a year, and will then transfer me to some other line of work. The principal advantage that I see of the place is that it will bring my rating up to $1200, and perhaps give me a good standing with the Service. On the other hand I have decided that as soon as an opportunity comes to go to the Orient, I am going to take it although whether I actually go or not depends pretty much on what you say.

Now Mr. Howard, who I'm rooming with at the South Fork Hotel insists that it is bed time. I guess that he is right, so gutter Nacht.

Yours as ever, John

Miller was witness to the tail end of the gold mining era. Most of the mines had long since ceased operation, but there were remnants of towns and buildings that are now lost to history.

March 23, 1909

I stayed up at the office last night and studied until about twelve o'clock and then started down to South Fork. It is about a mile from headquarters to the hotel where I am staying and down hill all the way. It was just beginning to snow when I left the office and the sleet blew in my face so that I could hardly find my way home. This morning it was still snowing some, and about four inches covered the ground, but it disappeared rather fast and was gone by noon.

I went up to the old Mission pasture to try to catch my horse, as I turned it out there some time ago. It started in to storm again so I had to give up and come home. I really enjoy the snow as it is quite a new experience to me. I don't suppose that it would be so nice if I were up further where the snow is deep, but it certainly is a wonderful sight to see the pines bending down with the weight of it and the bushes and ground cover white. It reminds me of Whittier's "Snowbound."

My plans for the work there are coming through nicely just now. Mr. Shinn has promised to let Howard go up and help me for a month with the surveying, and also to let the head cattle ranger stay for a while until I get the grazing matters started.

Even though he was probably better prepared than most, his letters often mentioned his studying for the civil service examination for forest assistant. He also refers to classic literature in this letter and others, indicating he read

things other than forestry and entomology literature. John Miller was an erudite man with broad interests and curiosity.

Sunday night, March 30, 1909

My Dearest:

I will do my level best to write a few lines tonight, although I just returned a few hours ago from a long hard trip up into the snow. As that is the subject on my mind most just now, I might as well tell you about it as it was the most interesting trip I have ever taken in my life.

Mr. Howard and myself have been watching for a chance for the last month to go up on the hill and if possible climb up on Mt. Shuteye. There is about twenty feet of snow up there now but of course that made the trip all the more attractive. So when the Supervisor remarked that he wanted someone to go up and look at the buildings at his upper camp we promptly volunteered. We left here Saturday morning carrying a light pack and snow shoes.[2] When we had tramped for about three hours we reached the top of the ridge above North Fork where we found the snow too deep to wade anymore so we took to the skis, and after breaking my neck a few times and doing considerable damage to the picturesque mountain scenery in numerous places where I fell down, I finally got so I could travel. We stopped at the upper camp for our noon lunch and had a very nice little lunch and a rest before we started back to the shake camps at the foot of Shuteye.

The weather did not behave very nicely and about two o'clock it began to snow. The snow here was about ten feet deep and as the loose snow accumulated on top it soon became very heavy snow shoeing. We were pretty familiar with the country or we would not have been able to find our way. As it was, it took us about four hours to go four miles and we reached the camp about six that evening. I was never so tired in all my life. The old bachelor who kept the camp cooked us a good hot supper and I went to bed about an hour afterward and slept like a log.

This morning we went up to Mr. Stout's camp about a mile from where we stopped for the night. The snow here was 10 feet deep. The cabin was so completely buried that only the gable end of the roof stuck up above the snow.

We took breakfast here and then went on up nearly to the foot of the mountain. Here I broke one of my skis which rather disarranged our plans about going up on the summit. We worked our way back to Stout's where I fixed my ski and then we started for home. I was very glad to get in here about five o'clock this evening and get a hot bath and some supper.

I think that we have some very nice pictures to show for our trip. I would be quite willing to start back again tomorrow for I certainly saw more beautiful and interesting sights than I have ever seen in two days before.

Well, I see that I will bore you to death if I keep on with this "thrilling" narrative. I have a good many other things that I ought to think about just now, for I have several weeks of hard studying to do before my examination comes off. You were quite right about the time of the examination. It occurs just two weeks from next Wednesday & Thursday, April 14 and 15.

Sunday afternoon, April 5, 1909

I finally escaped from the office last week and had a chance to spend three days in the field. We were running a survey up near the Cascadel Ranch. It is one of the prettiest places that I have ever seen in the mountains—located in a cozy little valley which opens out to the plains on the lower side. It has a most delightful climate the year round—warm in winter and cool in summer. We have certainly had some perfect days for the last week. It was almost too warm. If I had not been able to get outdoors for the time I think that I would be sick. As it is, I have been feeling fine. This morning I took a 2 mile run with Howard which helps very much to "straighten" out the spring inertia of one's system.

There is going to be a convention tomorrow of the five District rangers and assistants. It will last for two days. I don't know just what the program will be yet. I suppose though that I will be down for something of course.

He ended up establishing some long-term study plots at Cascadel later in his career. These plots were used to study bark beetles in ponderosa pine, a study that continued into the 1930s. His time in the Forest Service proved valuable when he started doing research on bark beetles for the Bureau of Entomology. His knowledge of the timber types and lay of the land enabled him to choose some important long-term study sites in the Sierra Nevada.

[2] Skis were also called snowshoes at that time.

Continued