

THE CONDOR

VOLUME XLII

JANUARY-FEBRUARY, 1940

NUMBER 1

JOSEPH GRINNELL: 1877-1939

WITH FRONTISPIECE AND ELEVEN OTHER ILLUSTRATIONS

By HILDA WOOD GRINNELL

Joseph Grinnell was born on February 27, 1877, at the Kiowa, Comanche, and Wichita Indian Agency on the Washita River, forty miles from old Fort Sill, Indian Territory, son of the agency physician.

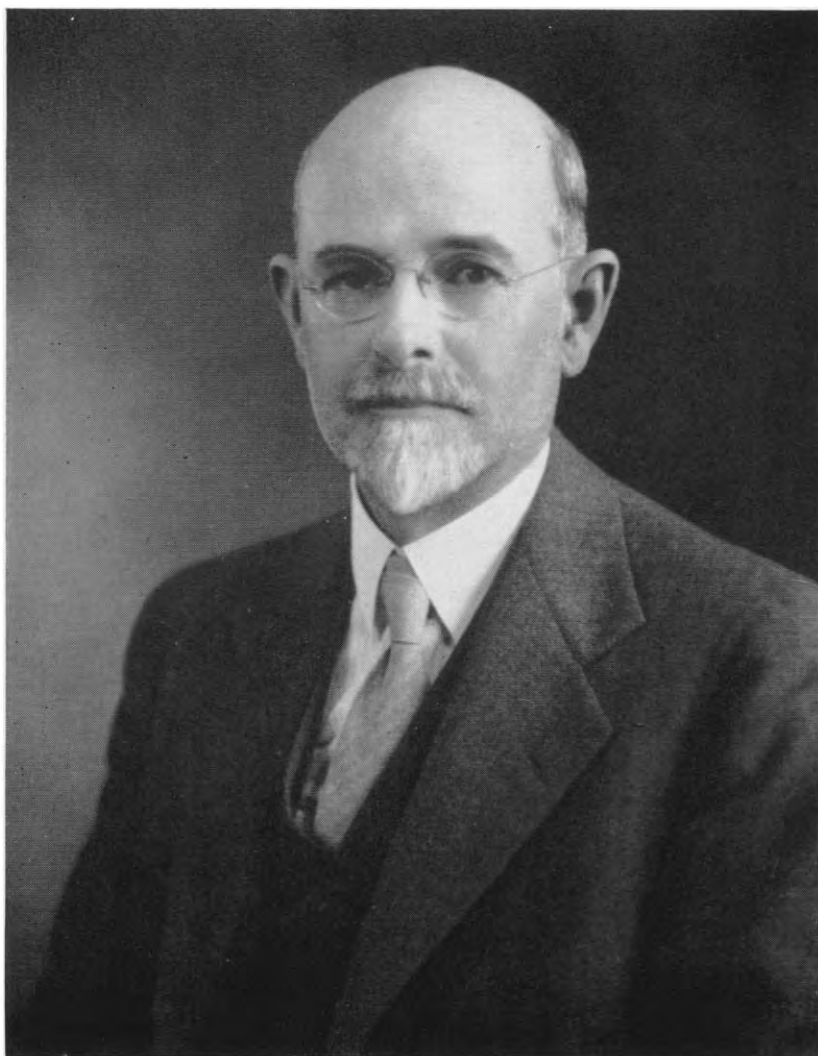
His father was Fordyce Grinnell, M.D., a birthright member of the Society of Friends and second son of Jeremiah Austin Grinnell, minister of note among the Friends of Vermont and Iowa, and later of California. As were his distant cousins, George Bird Grinnell, and Joseph Grinnell of New Bedford, Fordyce Grinnell was descended from Matthew Grenelle, a French Huguenot who was admitted as an inhabitant of Newport, Rhode Island, May 20, 1638.

His mother was Sarah Elizabeth Pratt, also a birthright Quaker, whose father, too, was a minister, Joseph Howland Pratt of Maine and New Hampshire. Both of Joseph Grinnell's parents were descended from "early-come-overs." Frances Cooke, John Alden, and Richard Warren of the Mayflower, Henry Howland, who followed his brother John to the new land, Thomas Taber, and the Worths of Nantucket were among their progenitors. New England traits of character were Joseph Grinnell's heritage.

Fordyce Grinnell as a young physician soon left the Indian service for two years of private practice in Marysville, Tennessee, but he was restless for the prairies. 1880 found him again in the service, this time in the Dakotas, where Chief Red Cloud's people were gathered. Here the family circle was completed by the birth of a second son, Fordyce, Jr., at Pine Ridge Agency, and a daughter, Elizabeth, at Rosebud. Being the eldest, however, by five years, Joseph relied upon Indian companions for playmates. Undoubtedly his senses were quickened by association with these alert comrades. The well-trained ear and quick eye which in later years made the fine field naturalist received in the Dakotas their first conscious training.

Chief Red Cloud's folk were Oglala Sioux, said to be the finest of the Plains Indians. Honesty of thought and action was as much a rule of life in the Indian village as it was in the Quaker home. A stick placed against the closed flap of a tepee to indicate the owner's absence made all articles within safe from molestation. The energetic small boy was a favorite with Chief Red Cloud and when, in later years, he dictated letters to the Grinnells in Pasadena there was always an especial greeting for "my little friend Joe."

In 1885 the family home was established in Pasadena, California, and eight-year-old Joe's formal education was begun in the "Central School," which occupied a five-acre site on Colorado Street between Raymond and Fair Oaks avenues. Late in 1888 came the collapse of southern California's "boom," and with the collapse hard times for everyone. Just at this time there came the offer of the post of resident physician at the Indian school at Carlisle, Pennsylvania. Dr. Grinnell thankfully accepted the offer and the family went east to Carlisle, where the school was under the command of an old Army friend, Captain Richard Henry Pratt. Here Dr. Grinnell was content, for he loved the work



THE CONDOR, *January, 1940*
Photograph by Webb

JOSEPH GRINNELL IN 1932

among his Indian charges and the complete freedom from financial responsibility which a stated salary gave him. His wife, however, pined for California's sunshine, so at the end of two years the family returned to the home on north Marengo Avenue, Pasadena, christened "The Birds' Retreat." The name was well chosen, for as the years went by and tall cypress hedges shut out the street, vines, fig trees, and huge clumps of pampas grass grew up, making the hospitable home a veritable bird sanctuary.

Joe brought back from Carlisle a cotton-stuffed toad, the first specimen in his collection, and a love for printer's ink. During his second summer in Carlisle he had worked in a printing shop. The insight there gained into printers' problems later won him the friendship of Charles A. Nace, the Cooper Club's first printer.

In 1893 Joseph was graduated from the Pasadena High School, at the age of sixteen. Shortly thereafter he went on his first real field trip, with a fellow graduate, Robert Louthian by name. The boys took a pack burro with them and their letters home told of penetrating "isolated regions" as far away as Simi Valley, Ventura County.

Enrollment in the college division of Throop Polytechnic Institute followed the summer's vacation. Alfred James McClatchie was in charge of the courses in biology and under this able botanist the boy received careful scientific training.

In 1895 Dr. Hiram A. Reid published his "History of Pasadena," a carefully compiled work of nearly seven hundred pages. Included is a list of the birds of Pasadena by "Joseph Grinnell, Student at Throop Institute." Of the eighteen-year old boy Dr. Reid says: "Young Joseph Grinnell, son of Dr. Fordyce Grinnell, has won the reputation of having captured, preserved, labeled and classified more specimens of our native birds than any other person. He seems to have a specimen of every species and variety of avian fauna ever found here, all nicely preserved, and neatly labeled with both its common and its scientific name." The names were those of Coues' Key, edition of 1892, a copy of this invaluable book having been presented to the young bird student by his parents in December of 1893. The list included the names of one hundred and fifty-eight species of land birds which had been identified within a radius of eight miles of Pasadena.

In the spring of 1896 Captain Pratt was detailed to make an inspection of the Indian Schools on the Pacific coast as far north as Sitka, Alaska. Stopping in Pasadena to see the Grinnells, he suggested that Joseph be permitted to accompany him north. This suggestion was received with so much enthusiasm by Joseph himself that all parental doubts as to the advisability of the trip were dispelled and we find him writing from San Francisco on Saturday, May 23, 1896: "Dear Folkses; I'm having a high old time here. We got in Thursday night and I put up at the Grand Hotel; Captain and Nana are across the street at the Palace Hotel. Friday forenoon I went collecting down to the end of the Bay about 16 miles out of town, & got 15 nice birds. . . ." At the Chemawa Indian School, near Salem, Oregon, he collected also, mailing home a box of birds with the request that his good friend Frank S. Daggett be asked to unpack the box and re-set the skins.

At Sitka, Captain Pratt and his daughter turned homeward, but Joe decided to stay on as long as he could make his money last. His enthusiasm for birds happily won him the friendship of Mr. Frobese, in charge of the Mission paint shop and, in the absence of Dr. Jackson, the Sheldon Jackson Museum. There was on the Mission grounds a vacant house, partly furnished, and at Mr. Frobese's request Joe was allowed the use of it. Later Mr. Frobese paid him \$1.50 weekly to assist in the Museum on "boat day" each week, for even in 1896 many tourists visited Alaska in the summertime.

Gaily Joe wrote home: "I have started in on my bill of fare for the summer — Two hard-tack with *Jelly* on. for breakfast, *Jelly* with two hard-tack on for dinner; and I

will get supper in town at a chinaman's restaurant [*sic*], for 30c a meal or \$9.00 a month, which is very cheap." This seems scanty fare for a growing lad, so we are relieved to find him writing a few weeks later: "I have fine company now—A Prof. and Mrs. Hindshaw from the University of Washington who are collecting plants, birds, bugs, & everything else. They use two rooms in my house as work-shop. . . . We get up great meals I tell you. My! but the spread we had last night! Flapjacks! 16 Plover roasted in a Dutch Oven, the finest meat I ever tasted; Venison, Salmon, etc. And after supper we went a few yards back of the house and picked all the Huckle-berries and Salmon-berries we could eat, and plenty for pies. . . . It is very pretty weather here now. I never was so well and happy in my life. Think of it! In a new country, collecting new birds every day. It's my ideal of a good time. Fishing, boating, all I want, with lots of adventures. . . ." Some of the adventures were on trips up the rocky coast, or many miles out to sea with Indian companions, in Indian canoes. On one such trip he was left overnight, through a misunderstanding, twenty miles out on lonely St. Lazaria Island, without food or blankets. That night he learned much of the ways of Petrels, as recounted in the "Nidologist" (vol. IV, March, 1897, pp. 76-78).

One adventure occurred on a day when, with Professor Hindshaw, he was out sailing on the bay. "We were sailing along finely, among the beautiful islands which dot the bay, when suddenly there was a terrific roar, and not one hundred yards to our left, a gigantic whale rose out of the water, blowing up a stream of water, which sounded like our fire-engine. After dashing the water into foam with his tail he disappeared, and to our horror he immediately appeared on the other side! he had gone right under our boat. This time he turned and dirrected [*sic*] toward us! My we were scared. We didn't have any wits left. I was never really frightened before. We stood with our guns cocked, we didn't know why, as the whale dove out of sight toward us; we thought every moment he would rise under us, and dash our boat to atoms. But after what seemed hours of waiting, he rose, far ahead, swimming away from us, and we made for a shallow inlet."

Before the end of July the fall migration had begun and each day brought new thrills, with the addition of Black-bellied Plover, Black Turnstone and Pacific Kittiwake, and many other northern birds to the growing collection. Tourists came in sometimes to view the bird skins. Among them were John Muir and his friend Henry Fairfield Osborn, who had learned of the boy's interest in birds. One summer resident, Joseph Mailliard, became later a valued friend.

Officers from the revenue cutters out in the bay sometimes came into the workshop. To one of these men Joe confided his feeling of indebtedness to the mission folk who had been so kind to him. The officer promptly suggested a lecture benefit, with the birds of Sitka as the subject. A hall was engaged, the venture advertised, and a little fund reaped for the Mission. Later this same officer expressed a desire to take back to a New England friend a collection of Alaskan bird skins and bought so generously, giving twenty-dollar gold pieces in payment, that Joe was saved the embarrassment of writing home for passage money.

Leaving Sitka in late August, Joe stopped in Seattle for several days as the guest of Trevor Kincaid, collecting in the outskirts of the town. In after years he sometimes spoke of the kindness of his young host, now Professor of Zoology at the University of Washington.

Back in Pasadena, he began his last year of college work at Throop. Almost all of his Saturdays and holidays were spent in the field, as his old notebooks testify. Up in the canyons above Pasadena, over in the Arroyo Seco, where a little stream flowed the year around, or down in the willow thickets of El Monte, he tramped with friends of his own age, or an older companion, as Professor Conant or Frank S. Daggett. Each

day's experiences were carefully written up at night. These original manuscript notes were always kept with the greatest of care. There are in his desk today eighteen of the notebooks, the earliest one begun on January 1, 1894. The pages of these notebooks were not numbered, but on April 13, 1908, the first day of his first field trip in the interests of the Museum of Vertebrate Zoology, Joseph Grinnell wrote on the first page of a new notebook the numeral "1." The series of page numbers begun on that day he always kept. There are today in the Conference Room at the Museum many bound volumes of these manuscript notes, the last page headed "3005."

An Academy of Sciences had been organized in Pasadena in January, 1886, at the home of the Honorable Delos Arnold, but sometimes it lapsed into a "state of quiescent dormancy," to quote Pasadena's historian, Dr. Hiram A. Reid. In the spring of 1897, however, it was active and the members did much to encourage Pasadena's young scientists, no one of whom was aided more generously than was Joseph Grinnell. An exploring trip of three weeks duration among the Channel Islands was financed by the Academy that spring and its first publication, issued in August, 1897, was a report on the birds of Santa Barbara, San Nicolas and San Clemente islands, by Joseph Grinnell. Its second publication, March, 1898, was "Birds of the Pacific Slope of Los Angeles County," by the same author.

Just at this time interest in the discovery of gold in Alaska was at white heat and many companies of men were organized to seek it. Among them was the "Long Beach and Alaska Mining and Trading Company," composed of twenty-two men. Joseph was so enthusiastic over the north country that his parents put in their share of the required capital.

The "Lacy Yacht" was purchased, christened the "Penelope" and fitted for a voyage to the Arctic. Sailing from San Pedro on April 8, 1898, the Penelope tied up for three weeks on the San Francisco water front, while outfitting for two years in the north.



Fig. 1. The "Penelope" in San Pedro Harbor just prior to sailing for Alaska on April 8, 1898.

On the ninth of July the little schooner, powered by sails only, reached Cape Blossom. A river steamer was built from parts brought north and some of the group steamed up the Kowak River to seek winter quarters.

Joseph Grinnell has written (introduction to *Pac. Coast Avif. No. 1*) of the place selected: "Our camp was situated in a stretch of spruce woods on the south side of the Kowak opposite the mouth of the Hunt River, which heads in the Jade Mountains on the north side of the Kowak Valley. Several short trips were made during the fall and spring into the surrounding country, so that a fair knowledge of the local geography was acquired. On the 7th of June, 1899, we broke camp and steamed down the Kowak to the Delta where we camped until June 27, when the ice opened enough to allow us to cross Hotham Inlet to Cape Blossom. The "Penelope" had wintered in Eschscholtz Bay, and she arrived off Cape Blossom on the 3rd of July. We took final leave of Cape Blossom on the 8th, put in at Chamisso Island for a part of the 9th, and rounded Cape Espenberg through the scattering ice-pack on our way out of Kotzebue Sound on the 10th of July, 1899."

Among the group wintering on the Kowak was Dr. William V. Coffin, a friend of Joseph's parents and physician to the expedition. The two became fast friends. Together they took their turns at cooking for the crowd. Dr. Coffin has estimated that



Fig. 2. The "Cooks' Union," Grinnell (left) and Shafer, aboard the "Penelope" in Bering Sea, June 7, 1898. Photograph by Clyde Baldwin.

they walked a thousand miles that winter on their snowshoes, hunting and exploring. He recalls that when shortened days lessened the opportunities for outside activities Joseph memorized a thick glossary of scientific terms and passed a perfect examination when quizzed by the doctor for an hour on the contents of the book.

Word of the discovery of gold on the beach at Nome, where many gold-hunters had camped on their way north, caused a return to that region. From July 20, until October 2, 1899, claims on the beach, or on Buster Creek, ten miles up the Nome River, were worked so continuously that there was no time for ornithology. By the end of September the weather was too cold for sluicing and the claims were involved in litigation, so that most men of the company sailed for home. Joseph Grinnell, alone, of all the group, felt that he had gained by his venture.

Those eighteen months in the north were faithfully recorded in letters home, which his mother later arranged into a narrative, "Gold Hunting in Alaska," brought out by

the David C. Cook Publishing Company, in 1901. For many years the letter writer looked askance at the little book, partly because of the boyish nature of many of his own sentences. Later, however, he came to realize that the record had a definite historical value. The ornithology of the expedition was published as the "Birds of the Kotzebue Sound Region, Alaska," issued in November, 1900, by the Cooper Ornithological Club as "Pacific Coast Avifauna, No. 1."



Fig. 3. Joseph Grinnell in 1901. Photograph taken by Chester Barlow at Santa Clara, California, February 22.

Back in California, Joseph's cherished hope of sometime attending Stanford University was fulfilled. Here rich friendships awaited him: Chester Barlow was Editor of the *Condor*, Dick McGregor was a fellow bird-enthusiast, Walter K. Fisher and Wilfred H. Osgood had collected in the field for Dr. C. Hart Merriam, Chief of the Biological Survey, whose writings were Joseph's gospel, and to meet them was thrilling. Other congenial companions there were, too, among them Edmund Heller and Robert Snodgrass.

Long hours in the laboratory, evenings in the library, Saturdays in the field, or up in the old Academy of Sciences Building, each day was full, but always he loved best the days spent out of doors. While working in the Stanford Library, the young ornithologist conceived the plan of making a state list of the birds of California, as had been done for Colorado by Wells W. Cooke. Of this enterprise he wrote in the *Condor* (May, 1901, p. 3): "This I realize is assuming a very difficult and tedious task. . . . But even

if I cannot bring such a thing to publication myself, I shall keep the bibliography and citations systematically arranged, so that anyone else can take up the work where I leave off."

This self-made pledge was faithfully kept for thirty-eight years; most of the work was done outside of regular working hours, on Sundays or holidays. When he closed his desk for the last time late on Saturday afternoon of May 27, 1939, the manuscript of the third installment of the "Bibliography of California Ornithology" lay within, almost ready for the typist and work on a new state list was well started. In the three installments, as published, there are listed 6840 titles of papers, in part at least, on the ornithology of California, written by a total of 1144 authors. Also, throughout the years there was kept a synonymy for each species of bird occurring in California, giving each reference in literature known to the compiler.

During his years at Stanford, Joseph Grinnell was largely self-supporting, teaching zoology and botany in the Palo Alto High School. In the summer of 1900 he served as assistant in embryology at the Hopkins Seaside Laboratory of Stanford University. In the summers of 1901 and 1902 he was instructor in ornithology there.

The death of Chester Barlow in November, 1902, brought sorrow to a wide circle of friends. McGregor, then in the Philippines, shared deeply in the sense of loss, but it was for those still at Stanford to carry on. The September, 1902, editorial page of the Condor carried the heading "Chester Barlow, Editor and Business Manager. Walter K. Fisher and Howard Robertson, Associates." The November issue read: "Walter K. Fisher, Editor. Joseph Grinnell, Business Manager, Howard Robertson, Associate."

Fisher served as editor through 1905. Then the pressure of other work, in another field, forced him to give up all but associate editorship, which he held for one year longer. The loyal support which was promised to Joseph Grinnell by other Cooper Club members if he would undertake to edit the Condor was so faithfully supplied that he was enabled to carry on the editorial duties through the remaining thirty-three years of his life, assisted by a changing group of associate editors. When he proposed any innovation at one of the annual meetings of the governing board, there was always a hearty "go ahead, Joe, we'll back you up." There were some wry faces when simplified spelling was introduced, but the disease, as some regarded it, was allowed to run its course.

In the spring of 1903 the work at Stanford toward a doctorate in zoology was interrupted by a severe attack of typhoid fever. While recovering in Pasadena, the convalescent was offered the position of instructor in biology at Throop Polytechnic Institute. He accepted it with the thought of putting off his return to Stanford for one year. That opportunity never came, but in October of 1912, while doing field work at Dutch Flat, Placer County, he wrote his former major professor at Stanford, Charles H. Gilbert, telling him of his wish to complete the requirements for the degree. The reply received was so cordial and the way so smoothed that he was encouraged to offer a thesis. He submitted "An Account of the Mammals and Birds of the Lower Colorado Valley with Especial Reference to the Distributional Problems Presented." This was accepted by his committee, the written examination taken, and on May 19, 1913, he received his doctorate from the hand of David Starr Jordan.

The teaching at Throop permitted many week-end trips into the field about Pasadena. Longer excursions were made into the desert during Christmas holidays. Often he was accompanied by students from his classes, boys in their middle teens. Three of these, Charles L. Camp, Joseph S. Dixon, and Walter P. Taylor, continued in the field of science.

Part of the summer vacation of 1904 was spent in the Mount Pinos country, with Joseph Dixon as assistant. The three following summers were devoted to a study of the birds and mammals of the San Bernardino Mountains, the first one with Joseph Dixon again as assistant. The second and third summers the author of this account served as assistant, following a wedding at Glendora, California, on June 22, 1906. Those

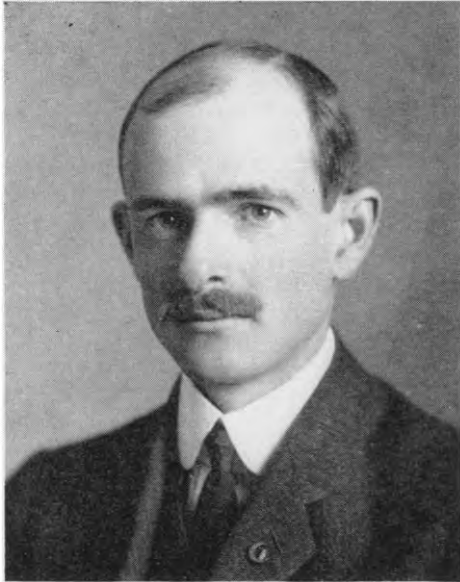


Fig. 4. In spring of 1904.



Fig. 5. In May of 1910.

Portraits of Joseph Grinnell

summer days were busy ones, each filled to the brim with activity. There were trap lines to be visited before the rays of the sun struck, or ants began their day. After breakfast there was a two-hour tramp, with notes to be taken, butterflies to be collected for a brother, grasshoppers for a friend in Philadelphia, plants for Miss Eastwood, who had already energetically bespoken the aid of all her friends in helping to build up a collection at the California Academy of Sciences to replace the one lost in the San Francisco fire of April, 1906. After lunch came the putting up of the morning's mammal catch and of the five birds usually selected on the early walk. Any rattlesnakes found were noosed, chloroformed, and put in formalin. From four until four-thirty in the afternoon came relaxation, in other words, fishing. A neighbor, "Old Man Martin," lived three miles upstream. Downstream the nearest neighbors were the Glass family, who kept the Seven Oaks resort, seven miles away, so the stream yielded plenty of lively trout. After an early supper there were traps to be re-set and baited, bats to be tried for in the twilight, lastly moths to be caught as they came toward the flicker of the little campfire. In July, 1906, an acquaintance, Harvey Monroe Hall, a botanist of the University of California, came to camp nearby with his young nephew. Mutual interests led to lifetime friendship and to the publication in 1919 of "Life-zone Indicators in California," in joint authorship.

That third summer in the San Bernardinos there was less tramping, for much time was spent in turning into manuscript the combined field notes of the three summers.

This was drudgery, for writing did not come easily to Joseph Grinnell. His desire to make every sentence which he wrote exact and clear led him, all his life, to write and re-write manuscripts, often putting them aside to ripen for awhile before the last revision. One of his student's has said of him: "He scorned language that was not exact, scientifically accurate and colorless." But in truth, he loved color if it were the right color, admiring greatly the writings of Elliott Coues. Bradford Torrey's "Field Days in California" always gave him pleasure. Many popular writers, though, annoyed him by their carelessness. Poetry was a language which he declared he could not understand.

That fall the manuscript for the "Biota of the San Bernardino Mountains" was no sooner sent off to the University of California, as an offering for their series of publications in Zoology, than serious work was begun on "Mammals of the Pacific Slope of Los Angeles County." Pressure of teaching and editorial work on the Condor caused the work to be set aside. Often in later years, when in a self-deprecatory mood, Joseph Grinnell would say: "That paper ought to have been completed, if I had worked just a little harder I could have put it through." Two other favorite projects were never carried out, though definitely planned for, one a monograph of the Song Sparrows of California, the other of the pocket gophers. These two plastic groups especially interested the student of geography and evolution.

In the spring of 1907, Miss Annie M. Alexander called at our Pasadena home in search of Joseph Dixon, recommended to her by Frank Stephens as an assistant to accompany the summer expedition which she was planning to take north for field work in Alaska. The vivid memory of his own Alaskan days later impelled Joseph Grinnell one day to send north to Alaska a letter enumerating many things which might be done to make the expedition most useful to science. The letter showed such a deep interest in the materials being collected that near Thanksgiving time Miss Alexander wrote inviting him to spend the holiday at her Oakland home in order to view the results of the summer's work. There she unfolded her plan for a museum of vertebrate zoology at the University of California.

During the Christmas holidays which followed she defrayed the expenses of the director-to-be on a tour of eastern museums, where he benefitted greatly by talking with scientists with whom he had long corresponded, and by studying methods of caring for specimens and systems of cataloguing. Later there were other eastern trips, ten in all, during the years to come. The contacts made with men and institutions were stimulating and much appreciated, but always Joseph Grinnell came back to California as deeply concerned as ever with the problems of his beloved State and more than ever aware of his good fortune in serving so wise and generous a patron. As an evidence of his own faith in the Museum's future he donated to it in 1909 his mammal collection, later his bird collection. His books, bound files of the Auk, Condor, and other magazines, as well as files of separates will also always remain in the Museum, freely accessible to future students, as they were to those of his day.

It was in August, 1908, that the family home was established in Berkeley. Here three sons—Willard Fordyce, Stuart Wood, Richard Austin—and one daughter, Mary Elizabeth, grew up.

At first all of the Director's time was absorbed by museum duties and by field trips in search of pertinent material to be added to the growing collections. In the University's summer session of 1909, however, a series of lectures on birds was given. Later four o'clock afternoon lectures were given, open to the public. In 1913 regular undergraduate courses in vertebrate zoology were instituted and continued through the years. These courses attracted the attention of serious students to the opportunities for graduate research in the Museum of Vertebrate Zoology. Each year some graduated students

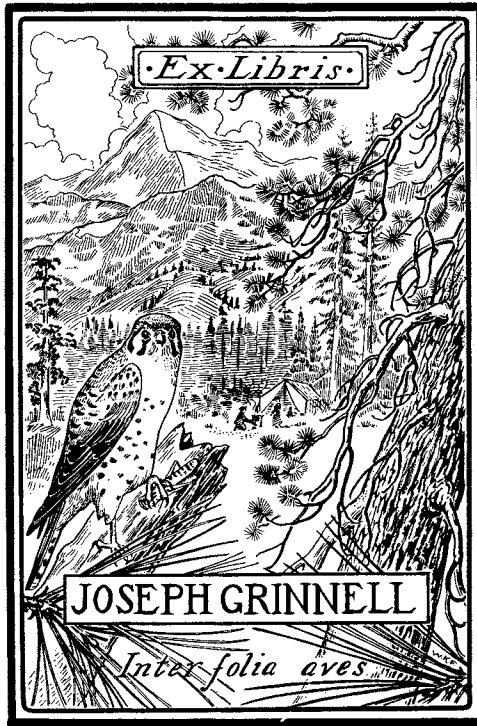


Fig. 6. Book plate designed by Walter K. Fisher in 1907 and first printed by Charles A. Nace.

returned to work within the Museum's precincts for higher degrees. Other students came from time to time from other institutions.

It was the Museum's plan to build up a collection primarily of Californian species, but with comparative materials from areas outside of the state. Accordingly, there have been many excursions into fields outside of California. Materials from several of these trips were published upon by Joseph Grinnell, but in only one of these extralimital expeditions did he take part—a field trip into Lower California in the fall of 1925. Within California it was the plan to sample, broadly at first, then more in detail, representative areas scattered throughout the state. The first field excursion undertaken after the founding of the Museum was to the Colorado Desert in the vicinity of Salton Sea, in April of 1908. In this enterprise Joseph Grinnell took active part. The following summer he also took part in the work carried on in the San Jacinto Mountains to ascertain the relationship of their fauna to that of the adjoining Colorado Desert and to that of the San Bernardino Mountains, already worked, and lying beyond the barrier formed by San Gorgonio Pass.

In the spring of 1910, along the Colorado River between Needles and Yuma, three months were devoted to a study of the river's effect as a barrier in the distribution of desert-dwelling mammals occupying similar habitats on opposite sides of the river, beyond the riparian vegetation which bordered it. Twenty camping sites were occupied on the California side of the river, which itself served as the party's highway, and nine on the Arizona side. A gratifying amount of geographical variation was detected in the materials secured.

As mentioned earlier in the present article, a study of this material was published (in 1914) as "An Account of the Birds and Mammals of the Lower Colorado Valley." In reviewing this paper, Dr. F. B. Sumner (*Science*, January 8, 1915, pp. 64-69) commends the close attention given to geographic races, and says, "The evolutionary theories of Darwin and Wallace were largely founded upon personal observations of geographical distribution. The modern student of genetics, on the contrary, carries on his studies for



Fig. 7. Grinnell tending the stew, 1½ miles NE Barstow, California, March 15, 1914. Photograph by Charles L. Camp.

the most part in the laboratory and the breeding pen. It is significant, therefore, that Bateson [1913, "Problems of Genetics"], perhaps the foremost living Mendelian, devotes a considerable portion of a recent volume to the problems of geographic variation. And one can hardly read that volume attentively without being convinced that the field naturalist holds the key to some of the most important secrets of nature. It is not improbable, therefore, that works of the sort here reviewed will come to receive more serious consideration from those who are concerned primarily with the problems of organic evolution."

In the summer of 1911 Joseph Grinnell was one of a group from the Museum which spent three months studying the fauna of the Mount Whitney region. In the autumn of 1914 the first regular field work of a survey of a cross-section of the Sierra Nevada, including Yosemite Valley, was begun. The work here was carried on intermittently until August of 1920, and was participated in by eight persons. He took an active part in the field work and was senior author of the report published upon the findings (*Animal Life in the Yosemite*, University of California Press, 1924).

In the spring of 1924 work was formally begun in the Lassen region of California, on a plan similar to that used for the Yosemite survey. The policy which resulted in the



Fig. 8. On the way to the trap line. Sierra Nevada, summer of 1915.

selection of the Lassen area for study is well illustrated in the introduction to the published report, of tripartite authorship, which reads: "In the Lassen section there are under way profound modifications of earlier conditions, modifications due directly to the increasing activities of man—grazing and over-grazing by domestic stock, lumbering, road-building, draining of lakes and other activities associated with irrigation projects, and the opening up of a new National Park to public use. Facts as to the status of species in the region at a given stage in the general faunal changes engendered by these processes will become significant in their bearing with regard to the conditions reached in the future."

In addition to the facts set forth in the published reports upon the Museum's various field studies, there were gathered other data which served in the preparation of these by graduate students and as source material for such publications as the "The Game Birds of California" and the "Fur-bearing Mammals of California."

The field trips listed above were those of longest duration, or of longest consideration of an area, but there were many, many others—a day, a week, ten days, spent in visiting some new field, or visiting at some new season of the year an already sampled region. Dozens of little vacation trips come to mind—memories of Cow Head Lake in Modoc County, Scott River Valley in the Siskiyou, South Fork Mountain in the Trinity-Humboldt country, Panoche Pass, Death Valley, the Waucoba Range. The last



Fig. 9. Joseph Grinnell preparing specimens in the field.

real field trip taken by Joseph Grinnell was when, on May 23, 1938, he joined a field party from the Museum of Vertebrate Zoology which was at work in the Providence Mountains of San Bernardino County. Here, on May 29, 1938, he put up his last specimen, a Black-chinned Sparrow secured by David Johnson.

One Californian area was in his later years especially attractive to Joseph Grinnell because of his hope that within its confines Nature would be allowed, to a degree not usually possible, to work out her problems untrammelled by man's interference. This area became the Point Lobos State Reserve. Here in mid-November of 1934 a year's work was undertaken by the Museum of Vertebrate Zoology with the objective of recording for the use of the student of the present and the analyst of the future "information which would show the kinds of land vertebrates present within the Reserve; and for each kind the frequency of occurrence and the relative abundance; the habitat; the more appreciable relationships with the physical environment; the nature of its biotic relationships; and the annual cycle of its activity in the Reserve" (Vertebrate Animals of Point Lobos Reserve, 1934-35, p. 2).

One of the concluding paragraphs of the report (p. 152) sets forth the tenet that: "Administrators of parks need, we think, to convince themselves and then to help visitors in the parks learn that natural processes are capable of maintaining an area with all the desirable qualities just to the extent they are allowed to do so by not interfering with them. Artificial help is not required; indeed, it is not beneficial, but it is positively a hindrance to the natural and hence desirable expression of a truly primeval area. We can not make such an area, but we may so treat land by bona fide protection that its primeval qualities come to predominate. Again, we need to make no special plans for the benefit of the animals, the plants, or the rocks. What we need to do is to conduct ourselves in such a manner that these objects may exist according to normal process on a long-time schedule."

As always, in last analysis, the project was made possible through the continued interest of Miss Alexander. In a lesser, but important degree, there was behind the project the support of the Carnegie Institution of Washington and the Save-the-Redwoods League of California. In this piece of research Jean M. Linsdale of the Museum staff was co-worker in the field and co-author of the published report.

Judging from what we hear "in town", and the traffic this way, mining is active to the east of us. We hear that the Marble Canyon "placers" are attracting quite a lot of attention. But no stream of summer tourists comes this way! The place is ideally sequestered. As I write, I hear the twanging calls of prairie jays and the faint chirping of a gray flycatcher; otherwise only the rising and falling swirl of the westerly wind in the trees about our camp.

*Very truly yours,
Joseph Grinnell*

Fig. 10. Ending of a letter written from Waucoba Pass, 7500 ft., Inyo Mts., June 12, 1937.

The faunal investigation at Point Lobos happened to attract the interest of Mr. and Mrs. Russell P. Hastings of San Francisco, who, as a result of this interest offered their ranch to the University of California for long-time study on similar lines. The ranch, like Point Lobos, lies in Monterey County, but at the head of Carmel Valley. Visits to the ranch between December 21, 1936, and April 8, 1939, usually including long conferences with Mr. and Mrs. Hastings, gave Joseph Grinnell increasing pleasure. On an area administered as is the Hastings Natural History Reservation there is opportunity for continued observation of a single species or individual. He wrote in his annual report to President Sproul of the University of California, July 10, 1936 (but in another connection): "Thoroughly to learn the lives of individuals of any one given wild species of animal provides facts essential to the intelligent handling of conservation problems involving that species, and also, when the results are made known, stimulates that personal interest and appreciation among people at large that is effective in guiding rational human attitudes toward it."

Keenly aware that, as the author of Lorna Doone wrote in 1869, "We desolate more than we replenish the earth," Joseph Grinnell during the last twenty years of his life turned his energies more and more toward emphasizing the tremendous need for better

conservation of our natural resources if this land is not to become as are the deserts of Arabia. With the quiet zeal of his Quaker ancestors he labored. "A Conservationist's Creed," "The Burrowing Rodents of California as Agents in Soil Formation," "Bird Life as a Community Asset," and "Wild Animal Life as a Product and as a Necessity of National Forests" are among those of his writings which deal with conservation problems.



Fig. 11. Camp in the Providence Mountains on June 1, 1938. From left to right, Aldrich, Arvey, Johnson, Rodgers and Grinnell.

Lectures Joseph Grinnell gave before his classes and indoor laboratory exercises he supervised, but it was in the laboratory of the Berkeley Hills that he was happiest, encouraging students to go directly to Nature for their inspiration. The writing last named of those mentioned above was read on April 10, 1924, before the California Section of American Foresters, meeting in Hilgard Hall, University of California. That message expresses so well the philosophy of Joseph Grinnell the Naturalist that part of it may well be repeated here: "The service of National Forests to the vacationist involves his thorough-going physical, mental, and esthetic recreation. In performing this service the animal life existing within the National Forests should constitute, I believe, at least next after the trees themselves, the most valuable single asset. For the best recreative forces in nature are those which serve most quickly to call into play latent and seldom used faculties of mind and body—those faculties whose exercise tends

to restore the normal balance to the human mechanism that special or artificial conditions of living have upset. Foremost among these recreative elements in the forest are the living things that move in sprightly fashion and utter sounds, exhibit color, and change in form, and by these qualities attract and fix the person's interest. To enthusiastically seek acquaintance with these primal objects of interest is, of course, to know the thrill of vigorous muscular activity; but better yet, to bring into use the generally neglected senses of far-seeing and far-hearing, to invite an esthetic appeal of the highest type, and an intellectual stimulus of infinite resource. . . ."

SOCIETIES AND COMMITTEES WITH WHICH JOSEPH GRINNELL WAS AFFILIATED

- Cooper Ornithological Club, Member from 1894; Life Member from 1919; President, Northern Division, 1901, 1902; Business Manager, 1902-1905; Associate Editor of the Condor, 1903-1905; Editor, 1906-1939; President, Board of Governors, 1938-1939.
- American Ornithologists' Union, Associate Member from 1894; Fellow from 1901; Member of Council, 1914-1939; Member Committee on Nomenclature, 1914-1919, 1925-1931; Vice-president, 1923-1929; President, 1929-1932.
- California Academy of Sciences, Member from 1901; Fellow from 1919; Member of Council and Librarian, 1911-1919; Member of Council and Second Vice-president, 1934-1937.
- American Association for the Advancement of Science, Member from 1904; Fellow from 1914.
- American Association of Museums, Member from 1909.
- Sigma Xi, California Chapter, Member from 1909; Vice-president, 1929-1930; President, 1930-1931.
- Wilson Ornithological Club, Member from 1913.
- Biological Society of Washington, Member from 1914.
- American Society of Ichthyologists and Herpetologists, Member from 1916.
- Ecological Society of America, Member from 1916; Vice-president, 1932; Member Editorial Board, 1926-1931.
- Western Society of Naturalists, Member from 1916; Secretary, 1918-1919.
- Zoological Society of London, Corresponding Member from 1917.
- American Society of Mammalogists, Member from 1919; Member Board of Directors, 1919-1939; Vice-president, 1935-1937; President, 1937-1938.
- British Ornithologists' Union, Foreign Member from 1919.
- Boone and Crockett Club, Associate Member from 1919.
- Editorial Committee, University of California, Member, 1920-1931, 1932-1937; Acting Secretary, summer of 1926; Acting Chairman, summer of 1928; Acting Manager of University of California Press, summer of 1926; Co-editor of University of California Publications in Zoology, 1921-1936.
- American Society of Naturalists, Member from 1921.
- American Association of University Professors, Member from 1924.
- Academy of Natural Sciences of Philadelphia, Correspondent from 1926.
- American Academy of Arts and Sciences, Fellow from 1930.
- Washington Academy of Sciences, Member from 1931.
- Nebraska Ornithologists' Union, Honorary Member from 1932.
- International Wild Life Protection, American Committee, Advisory Committee, member, 1930-1939.
- American Wildlife Institute, Trustee, 1936-1939.
- Wildlife Society, Member Advisory Committee, 1937-1939.
- National Association of Audubon Societies, Member from 1938.
- The Linnaean Society of New York, Honorary Member from 1938.
- Sierra Club.
- Pacific Northwest Bird and Mammal Society, Member from 1927.
- Pan-Pacific Union, Member from 1936.
- Ottawa Field-Naturalists' Club.

ANIMALS NAMED AFTER JOSEPH GRINNELL

Insects:

- Cordüllacris grinnelli* Rehn and Hebard (1908).
Halictus grinnelli Cockerell (1916).

Birds:

- Regulus calendula grinnelli* W. Palmer (1897).
Geranoaëtus grinnelli L. H. Miller (1911).

- Glaucidium gnoma grinnelli* Ridgway (1914).
Agelaius phoeniceus grinnelli A. B. Howell (1917).
Lanius ludovicianus grinnelli Oberholser (1919).
Penthestes gambeli grinnelli van Rossem (1928).
Loxia curvirostra grinnelli Griscom (1937).
Carpodacus mexicanus grinnelli Moore (1939).
Polyborus prelutosus grinnelli Howard (1940).

Mammals:

- Scapanus latimanus grinnelli* Jackson (1914).
Procyon lotor grinnelli Nelson and Goldman (1930).
Eutamias dorsalis grinnelli Burt (1931).
Microtus californicus grinnelli Huey (1931).

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5. The Lazuli Bunting. (*Passerina amoena*.) < Nidologist, I, January, 1894, p. 80.
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 10. Notes on the Marbled Murrelet. < Osprey, I, May, 1897, pp. 115-117.
 11. Description of a New Towhee from California. < Auk, XIV, July, 1897, pp. 294-296.
 12. Disorgement among Song birds. < Auk, XIV, July, 1897, pp. 318-319.
 13. Report on the Birds Recorded during a Visit to the Islands of Santa Barbara, San Nicolas and San Clemente, in the Spring of 1897. = Publication No. I, Pasadena Academy of Sciences, August, 1897, pp. 1-26.
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15. Rank of the Sage Sparrow. < Auk, XV, January, 1898, pp. 58-59.
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 17. Summer Birds of Sitka. < Auk, XV, April, 1898, pp. 122-131.
 18. Our Feathered Friends | By | Elizabeth Grinnell and | Joseph Grinnell | [vignette] | Boston, U.S.A., | D. C. Heath & Co., Publishers | 1898. Pp. xii + 144, 37 illustrations in text; small 8vo, boards.
 19. Land Birds Observed in Mid-winter on Santa Catalina Island, California. < Auk, XV, July, 1898, pp. 233-236.
 20. Geographical Races of *Harporhynchus redivivus*. < Auk, XV, July, 1898, pp. 236-237.
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