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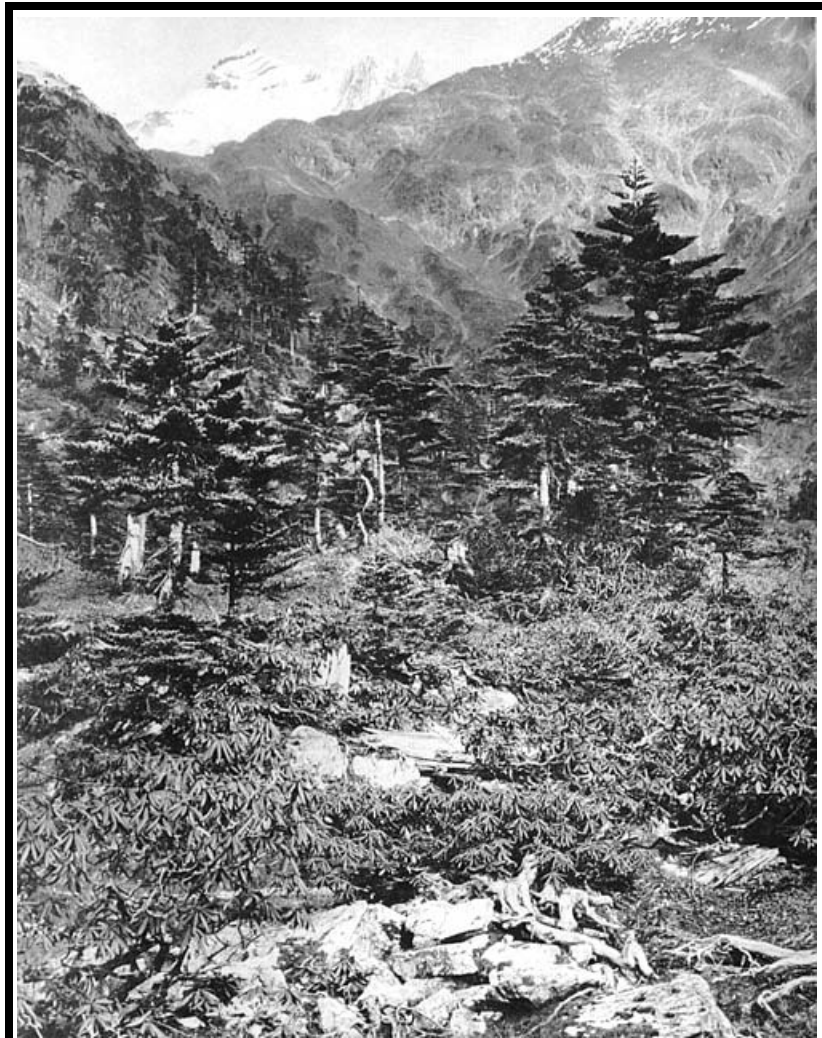


Fig. 21. *R. dryophyllum* growing on the Mekong-Salween divide, elevation 12,000 ft.
Photo by Dr. J. F. Rock, October 1923

In 1930 Rock returned to the United States for a short visit and was sent back to China for two years, this time by the Harvard Museum of Comparative Zoology. During this period he faced many difficulties for the country was filled with bandits. Again with his Na-khi assistants, he explored the Mekong and Salwin valleys and the Irrawaddy headwaters, collecting 1,800 skins of birds. The University of California Botanical Garden undertook Rock's research in 1932-33. Again he collected thousands of seeds and herbarium specimens from western China, including species of *Rhododendron*, *Potentilla*, *Berberis*, *Meconopsis*, and *Primula*, which were distributed by the Royal Botanic Garden at Edinburgh.

Many times during these different expeditions Rock was thought to be "lost." As Honorary Collaborator for the U. S. National Museum, his research encompassed ethnology, botany, and zoology. He was also Collaborator with the Harvard-Yenching Institute and Agricultural Advisor to the Provincial Government of Yün-nan. This portion of his life is vividly depicted in a series of ten highly pictorial articles which he contributed to the *National Geographic Magazine* (1922-35).

On his way to Europe in 1933, he told Honolulu newspaper reporters that he now considered himself "too old" for exploration and living in the wilds, for it was a month's journey to the nearest physician. However, after spending the holidays in Vienna, he went back to China in 1934 via the United States and Hawaii. The exploration portion of his life was now behind him and he continued, on his own, his studies of the Na-khi peoples which he had begun two years before. For nearly 12 years he studied and translated religious texts of the Na-khi tribe of northeast Yün-nan Province. He had agents scouring China for rare classics and texts. In 1935 because of the conflict between the Chinese Nationalists and Communists he evacuated his library to Indo-China, returned it to Kunming, and had to repeat this the following year for the same reasons. Many times during this period at the urging of his friends he thought of returning to Hawaii because of the political unrest in China. During 1938-40 he held the position of Research Professor in Chinese Culture at the University of Hawaii. In 1938 the Japanese bombed Kunming and for the third time he sent his library to Indo-China. Except for a brief period in Europe, he was almost continuously in Dalat, South Annam from 1938 until 1940, when he directed the U.S. National Museum's ornithological expedition to Annam and Cambodia. In 1941, the Japanese bombing of Shanghai destroyed the plates of a four volume work in the process of printing. By this time he had published six articles and two books about the Na-khi people.

His research was further interrupted by World War II. In 1944 he was evacuated by plane to the United States, becoming Expert Consultant and Geographic Specialist and later, until 1945, Research Analyst for the U. S. Army Map Service in Washington, D.C. As the only authority of that region, he prepared maps of western China for military use. The Minya Konka Range which he had mapped and explored for the National Geographic Society in 1929 was the route which American pilots flew between India and Chungking, China.

The culmination of twelve years of research was lost when the ship carrying his manuscripts from Calcutta to the United States was sunk by Japanese torpedoes in the Arabian Sea. All that was left were three photostat volumes which Walter Swingle of the U. S. D. A. had insisted be deposited in the Library of Congress in 1934. At this time he was offered a Research Associate position at the University of Hawaii but chose instead to return to China to continue his research.

As Research Fellow of the Harvard-Yenching Institute from 1945 to 1950, he was finally able to return to China at the end of 1946. He again resided in Li-chiang to continue his translations of the pictographic and syllabic scripts of the Na-khi tribe. In 1948 he was forced to go to Boston for a brief period because of illness. In May 1949 a band of 4,000 bandits threatened to capture Li-chiang and he was forced to flee to Kunming and the Na-khi Dtomba, who was assisting Rock with his translations, fled to his home. When the bandits were defeated a

month later, he returned to Li-chiang by plane and was greeted by an army with machine guns leveled at him. Then he found that the day before his arrival, the town had been taken over by Communists. After they searched his possessions for arms, they left. He was told by the villagers that Americans were no longer wanted in China. The Na-khi Dto-mba did not return for fear of reprisals. Rock remained in Lichiang for a month. After being proclaimed as one of the public enemies by the Communists, he was finally forced to leave his beloved China forever.

He went to Rome to confer with Professor Guiseppe Tucci, President of the Italian Institute of the Middle and Far East about continuing his work. The Institute undertook publication of several of his volumes in their Oriental Series. He spent the next two years between England and India, still with the hope of being able to return to China.

During and after his residence in China, he collected and translated key volumes of over 8,000 books of the original literature of the Na-khi tribe, wrote many articles and books about the Na-khi, and took the first natural color photographs of the Tibetan borderland regions. He introduced into the Western World 493 species of *Rhododendron*, more than had been previously known in America. Plants were distributed by his sponsoring institutions and planted in the Golden Gate State Park in San Francisco, the University of California Botanical Garden, the Puget Sound Area, the eastern coast of the United States, Canada, the Arnold Arboretum, Kew Gardens, and the Royal Botanic Gardens at Edinburgh. He also introduced blight resistant chestnuts from China which were widely distributed by the USDA in the hopes of restoring this plant to the American forests. During one trip he collected 6,000 chestnut plants. He also brought back many conifer seeds, including spruce, fir, hemlock, pine, and juniper, as well as hundreds of flowering plants. His thousands of herbarium specimens and birds and scores of mammals were deposited in the U.S. National Museum, Arnold Arboretum, and the Harvard Museum of Comparative Zoology. Portions of his plant collections were sent to European herbaria for determinations and duplicates are found there and in other American institutions.

His valuable Oriental library, once at the University of Hawaii, and at different times in storage or in transit, was eventually purchased by the University of Washington for \$25,000. Because of his outstanding contributions to the knowledge of western China through his numerous publications, he was appointed permanent Honorary Research Associate at the University of Washington's Far East & Russian Institute in 1954.

Increased interest in the establishment of a botanical garden in Hawaii eventually returned him to his beloved Hawaiian Islands. For a time he made his headquarters with his contemporary, Dr. Harold L. Lyon, Director Emeritus of the HSPA Experiment Station. During his visit in 1953, he had prints made of Hillebrand's types of Hawaiian plants. The following year he spent most of his time on the island of Maui. In 1955-56 he botanized on Kauai and Hawaii, and 1956-57 on Hawaii.

In December 1955 Dr. Rock was appointed Honorary Associate in Botany at the Bernice P. Bishop Museum and later published four papers on new species discovered, mainly in the *Lobeliaceae*. All of the Hawaiian specimens which he collected were deposited in the Bishop Museum, as well as his Hawaiian collection note books, photographs, and glass plates which he made 40 years ago. He, in turn, was given a copy of his own out-of-print book, *The Indigenous Trees of the Hawaiian Islands*, for he had none at this time.

During these later years he confined most of his botanizing to the "roadside" category, taking advantage of the jeep roads built during World War II. He found that it was now easy to visit areas formerly inaccessible. He discovered that many of the species with which he was familiar over 35 years ago had vanished to extinction, remaining only as "dried corpses in the herbaria." Even though he had been absent for a long period from Hawaii, he still knew the plants and where they grew.

Rock was considered by many to be the "Father of Hawaiian Botany," whereas his predecessor, Hillebrand, was the "Grandfather." His plant collections were prolific, for he collected everywhere and extensively in the Hawaiian native forests. Duplicate specimens are at

Arnold Arboretum, Gray Herbarium, New York Botanical Garden, U. S. National Museum, and other herbaria. He described hundreds of new species and varieties in his 56 publications resulting from his Hawaiian residence. He was considered the specialist of Hawaiian *Pritchardia*, *Lobeliaceae*, and other native plant groups. To his Hawaiian intimates he was known as *Pohaku*, the Hawaiian word for Rock.

His linguistic ability was outstanding. German was his native language, but as a youth he had learned Hungarian from his grandmother, and Chinese at the age of 15 by self-study. He had taught Arabic at the age of 16 at the Vienna University. He was fluent in Italian, French, Spanish, Tibetan, Latin, Greek, and the various languages of the aboriginal peoples of West China. He had a reading knowledge and comprehension of Japanese, Hindi, and Sanskrit. When he visited countries such as Iceland, he was able to quickly comprehend the language and converse with the people. He spoke English without a Germanic accent.

Dr. Rock was a member of many organizations and received many awards. In 1930 Vienna University in Austria and Baylor University in Waco, Texas, awarded him Doctor of Laws degrees, and in April 1962 the University of Hawaii honored him with a Doctor of Science degree, *honoris causa*. He was awarded the Gold Medal by the Royal Horticultural Society at the 200th anniversary celebration at Kew Gardens; the Stanislaus Julien Award of the Institut des Belles Lettres by the Academie Francaise, Paris, in 1948; and the Gold Medal by the American Rhododendron Society in 1954. He was honorary life member of the National Geographic Society (1925), Harvard Travellers Club, Rhododendron Association (London), and the North American Lily Society; fellow of the American Geographical Society, Royal Geographical Society (London), and Royal Asiatic Society of Bengal; corresponding member of the L'Ecole Francaise d'Extreme Orient, Hanoi (1938); member of the Royal Asiatic Society of North China, Botanical Society of America, Torrey Botanical Club, West China Border Research Society, Washington Biological Society, American Primrose Society, California Horticultural Society, Seattle Rhododendron Society, and the Alpine Garden Society. In Hawaii he was honorary member of the Hawaiian Botanical Society, Friends of Foster Garden, and Hawaiian Botanical Gardens Foundation, Inc., and Honorary Chairman of the University of Hawaii's Campus Beautification and Landscaping Faculty Committee (1962-63). One of the University's campus drives is named Rock Road. He was listed in *Who's Who in America* for thirty years and in the American Men of Science. In 1909 Forbes was the first to name a new species in Rock's honor, and today many hundreds of plants and birds bear the specific names of Rockii. In 1913 Anton Heimrl established the genus *Rockia*, with one species, *R. sandwicensis* (Family *Nyctaginaceae*). This was done to distinguish Rock as a collector and because he collected the first, best, and sometimes the only specimen of the newly described taxon.

Shortly before his death he was in Europe classifying Na-khi manuscripts. His two volume dictionary of the language is now in press, finally completed, in spite of years of difficulties caused by forced evacuations, bandits and communists, war, bombing, inflation, cholera and other illnesses, and the loss of his manuscripts. This dictionary is the culmination of his long years of exhaustive and painstaking research of a culture almost entirely vanished from the rapidly changing scene of Asia.

He had suffered a heart ailment for several years and moved to Hawaii for health reasons once more. He was stricken with a heart attack shortly after arising on December 5, 1962, at the home of Mr. and Mrs. A. Lester Marks in upper Nuuanu Valley, Honolulu. He made his home with them since 1957. His greenhouses there were filled with native and exotic plants, including Hawaiian Lobelioids which he had grown from seed. Some of the Hawaiian plants are for future planting on the Bishop Museum grounds. This year he donated 80 species of plants to the University of Hawaii, adding further to the original campus tropical botanical garden which he founded 50 years ago.

Although for 40 years his interests lay mainly in western China, he confessed to the writer last year that he would be delighted if anyone brought him a Hawaiian Lobelioid. This

was indicated by the last botanical paper published before his death, entitled *Hawaiian Lobelioids* (B. P. Bishop Museum Occasional Papers XXIII(5) 64-75, August 17, 1962). That his heart still lay in Botany was confirmed by his presence at the Hawaiian Botanical Society lecture (co-sponsored with the Friends of Foster Garden, Hawaiian Academy of Science, and Hawaiian Botanical Gardens Foundation, Inc.), "Plant Collecting in the Andes," just two days before his death. This expert on plant collecting in Hawaii and China had planned to make a botany trip to the island of Hawaii two weeks later.

Pohaku was laid to rest with the plants he loved on December 10th, one week after his last public appearance, in Nuuanu Valley's Oahu Cemetery.



Fig. 22. Dr. J. F. Rock and his Nashi boys cutting trail over tops of *R. przewalskii*, near summit of Dakhe la, Choni principality, Mar. 1927.

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Two hypotheses regarding the evolutionary significance of natural hybridization between the two *Rhododendron* species are proposed: 1) introgression from *R. Atlanticum* to *R. Periclymenoides* may result in greater resistance of *R. Periclymenoides* to *P. Rufosanguinea*; 2) gene flow from *R. Periclymenoides* to *R. Atlanticum* may allow *P. Rufosanguinea* to become adapted to *R. Atlanticum*.
Coniferous forests dominated by spruce grew in the Great Plains, and forests dominated by pine grew on the southern part of the Atlantic coastal plain. At the opening of the Holocene, and presumably at the beginning of all the previous interglacials, tree distributions changed dramatically as temperate species rapidly extended their ranges northward. *Journal American Rhododendron Society*. Table of Contents. QBARS - v17n3 Dr. J. F. Rock, 1884-1962, Part II. J. F. Rock, 1884-1962, Part II Alvin R. Chock. Fig. 21. *R. dryophyllum* growing on the Mekong-Salween divide, elevation 12,000 ft. Photo by Dr. J. F. Rock, October 1923. In 1930 Rock returned to the United States for a short visit and was sent back to China for two years, this time by the Harvard Museum of Comparative Zoology. During this period he faced many difficulties for the country was filled with bandits. Again with his Na-khi assistants, he explored the Mekong and Salwin valleys and the Irrawaddy headwaters, collecting 1,800 skins of birds. J.F. Rock, 1884-1962, Part II, *Journal American Rhododendron Society*, Volume 17, Number 3. Authors: Chock, Al Keali. Publisher: The American Rhododendron Society. Relation: <http://scholar.lib.vt.edu/ejournals/JARS/v17n3/v17n3-chock.htm>. URI: <http://hdl.handle.net/10125/39442>.