A SALUTE TO JOSEPH NELSON ROSE

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INTRODUCTION

Kind, amiable Joseph Nelson Rose was a man of sterling qualities, willingness and patience. A great botanist and a prolific writer, he never hesitated to help and encourage those who sought his advice on botanical matters.

Dr. Rose is best known as the junior author of the great monograph, *The Cactaceae*, written in collaboration with Nathaniel Lord Britton over 57 years ago. Apart from his famous co-worker, he described one genus and 38 species of cacti plus dozens of other plants. He was a greater student of the Cactaceae than Dr. Britton, and his career, for the most part, was distinct from his.

Dr. Rose died in 1928, the year before the Cactus and Succulent Society was founded and the Journal established. Despite his great botanical work with cacti and succulents, the Journal has never before featured an article about or a picture of him.

EARLY CAREER

Joseph Nelson Rose was born on a farm near Liberty, Union County, Indiana on January 11, 1862. His father, George W. Rose, had been drafted into the army during the latter part of the Civil War and was sent to Vicksburg, Mississippi where he died. Even as a boy, Joseph Rose exhibited a profound love of flowers and was a rather quiet and serious youngster. He was educated in the public schools in Union County and graduated from Liberty High School in 1880. Rose entered Wabash College as its first post-graduate student and received an A.M. degree in 1887 and a Ph.D. in 1889. During his last two years in college, Rose served as an assistant in botany to Prof. John W. Coulter, an eminent botanist and student of the Cactaceae, who directed his doctoral thesis on the Umbellifereae of North America. Rose published monographically on that difficult family both then and later, mostly with Coulter. He also carried on botanical studies at the Gray Herbarium; Royal Botanical Gardens, Kew, England; and in Geneva, Switzerland; Berlin, Germany, and other European cities.

Joseph Rose married Lou B. Sims of Delphi, Indiana. They had two sons, Joseph and George, and two daughters, Rebecca and Martha.

Soon after his marriage in 1888, Rose was accepted as Assistant Botanist in the Department of Agriculture in Washington, D.C. On the reorganization of the National Herbarium in 1896, and its transfer to the custody of the Smithsonian Institution, he became Assistant Curator (1896 to 1905), and later Associate Curator (1905 to 1912; 1922-1928), the position he also held at the time of his death. He worked in a beautiful large study with Gothic windows which had a solemn effect on many visitors.

Dr. Rose had a keen mind, a big heart, a love for family life, and a deep religious faith. In his personal relations with his colleagues, he showed the same friendly and kind spirit, great tolerance with those less informed, and a wonderfully even temper. He was an energetic worker, a deliberate thinker, and friendly even when critical.

J.J. Verbeek Wolthuys, a Dutch cactophile and editor of *Succulenta*, reported that in correspondence with Dr. Rose there was never an unanswered question. Wrote he: "Sometimes if Dr. Rose thought my question was sufficiently important, he would gather information from the authorities throughout the world for the answer."

Among his many honors were vice president, Botanical Science, 1903; vice president, Washington Academy, 1908 to 1918; vice president, Washington Botanical Society, 1907; vice president, 1909 to 1917, and, president in 1918, Washington Biological Society; and an LL.D. from Wabash College in 1925.

Four genera of plants were named for Rose including *Brittonrosea*, a genus of cactus established by Dr. C. Spegazzini in 1923.

Dr. Rose was instrumental in building up the great herbarium collection in the National Museum. The collection plus his long series of articles published in the *Contributions* indicate how efficient he was. After becoming familiar with the larger European herbarium collections, Dr. Rose had the opportunity to study many of the species in habitat—Central America and South America. His work, especially on succulent plants, benefitted immeasurably from these experiences and acquired lasting significance as a result. The necessary routine of handling of the plant accessions provided a liberal education to Dr. Rose who was keen on floristic and taxonomic studies. He named many species from the new material that came in from unfamiliar regions.

Dr. Rose was responsible for bringing to the Smithsonian Institution one of its most important gifts, the renowned, large, private herbarium and botanical library of John Bonnell Smith of Baltimore, Maryland.

Dr. Rose was aware of and desired to further the work of conservation of desert plants and was a dedicated worker toward this end. Shortly before his death, he sent this letter to E.C. Rost: "I have written to a number of my friends with regard to the preservation of the cacti of southern California

and the matter has been laid before the National Park people and the Interior Department, and I believe that it might be possible to have set aside as a public park a section of this region, if the proper influences can be brought to bear upon it."

BOTANICAL EXPLORATIONS

Dr. Rose explored extensively in Mexico, collecting in nearly all of the states and, being interested in mountain climbing, scaled Orizaba and Potocatepetl. He botanized there eight times between 1897 and 1911—in 1897, 1899, 1901, 1903, 1906, 1908, 1910 and 1911—collecting thousands of plants, many of which were new.

Rose was appointed one of the naturalists on the United States ship "Albatross" in 1911 and cruised about Baja California making many landings on the coast and visiting all of the large islands in the Gulf of California. A collection of thousands of living and dried plants was the result of this expedition. Much of the collected cacti and other succulents, especially the Crassulaceae, was sent to the Ministry of Agriculture in Washington for cultivation in greenhouses, marking the beginning of an extensive living collection which Dr. Rose used later in monographic studies. The living cacti were cared for by Manuel Fraile, a Spaniard by birth, for whom Britton and Rose named the genus *Frailea*.

Rose's special interest in the Cactaceae probably stemmed from his field work in Mexico where the cacti constitute so much of the flora. His first paper on cacti was published in 1907. More than a dozen other papers were published during the next two years, several of these being written in collaboration with Dr. N. L. Britton with whom he planned a revision of the Cactaceae of the United States and Mexico, including the West Indies. When the scope of the project was enlarged to cover the cacti of the world, Rose was granted a leave of absence from his position as Associate Curator at the Smithsonian and in 1912 accepted an appointment as Research Associate with the Carnegie Institution for preparing a monograph of the Cactaceae with N. L. Britton.

Relieved from his administrative work, Dr. Rose began the task with his usual patience, quiet enthusiasm and thoroughness. First he reviewed the extensive and widely scattered descriptive literature of the cacti. Then in order to get to know the already described species still cultivated in Europe, he travelled to Europe in 1912 and visited all the important herbaria, botanic gardens and private collections, such as Kew, Paris, La Mortola, Rome, Naples, Munich, Darmstadt, Erfurt, Halle, Dahlem, and Antwerp. The following year, Drs. Rose and Britton travelled to the West Indies. In 1914, Rose visited South America from Peru and Bolivia to Santiago in Chile. In 1915 he went to Brazil and Argentina, in 1916 to Venezuela, and in 1918 to Ecuador. Further collecting trips were undertaken by Dr. Britton and Dr. I. A. Shafer of the New York Botanic Garden. These trips produced an extraordinarily rich collection of living plants and herbarium material.

In the pursuit of cacti, Dr. Rose also travelled extensively through the western part of the United States and in Mexico. Many of these excursions in the quest of cacti were rugged and he endured severe hardships at times because of rough country and extreme climatic conditions, and he frequently was hampered by inadequate provisions and funds. However, he had the companionship of his son, George, on one trip to Panama and Ecuador, and his son Joseph on a trip through Mexico. Being energetic and determined to succeed in finding what he was looking for, Dr. Rose's efforts always were rewarded with new discoveries. When the work on *The Cactaceae* was completed after 10 years, Rose returned to the National Herbarium at the Smithsonian.

JOSEPH NELSON ROSE

Fig. 1. Joseph Nelson Rose in a portrait made about the turn of the century. This is one of the two pictures of him that appear in the literature. He was a kind and amiable man, qualities reflected in this picture.

PUBLICATIONS

The ultimate result of Dr. Rose's extended investigation was *The Cactaceae*, a magnificent, beautifully illustrated monograph in four volumes written in collaboration with N. L. Britton. The

Carnegie Institution spent $100,000 in publishing this work, a fabulous sum at the time. *The Cactaceae* was an exceedingly important treatise, not only because it represented a comprehensive new treatment of a very difficult family but also because of its influence in bringing into general favor a fascinating and intricate group of plants which were almost exclusively American. Choosing cacti as a special study among the flora was considered a very odd choice at the time. But by making a thorough study and presenting so many marvelous and interesting plants, Dr. Rose was termed the father of the national movement that made the neglected and scorned cactus family fashionable and prestigious.

Among Dr. Rose's earlier projects was naming several west-Mexican collections made by Edward Palmer, a pioneer in that field, and enumerations of Palmer's collections are among his earlier publications.

Rose's first paper on the Crassulaceae, published jointly with N. L. Britton, contained many new taxa. This was followed two years later by a joint systematic treatment of the entire North American *Crassulaceae*. Until 1927, Dr. Rose continued to publish many papers on the American Crassulaceae of which he had become the acknowledged authority.

After returning to the National Herbarium in 1925, Rose undertook jointly with Dr. Britton a revision of the North American leguminous plants of the *Minosaceae* and *Caesalpiniaceae*. The results were published posthumously. He also found time to continue his study of succulent plants.

Dr. Rose's published works extend over 40 years and contain about 200 titles, including the important ones written in association with at least 12 botanists.

Though his most monumental work was on the *Cactaceae*, *Crassulaceae*, *Umbelliferae* and *Amaryllidaceae*, his interests were broadly distributed over the flowering plants. However, it is chiefly through his comprehensive handling of the difficult succulents, the tuberose-like Amaryllids, and the Umbelliferae that he will be remembered.

REMINISCENCES

Dr. Alwin Berger, famous student of the Cactaceae and author, was a long-time correspondent and close friend of Dr. Rose. Of this relationship he wrote: "My acquaintance with Dr. Rose dates from the year 1905. My 'Revision of the Genus *Cereus*' had appeared in the spring of that year in the Annual Report of the Missouri Botanic Garden, St. Louis. The first communication I received about my work on cerei was from Dr. Rose. He congratulated me most cordially, and wrote that since Engelmann's day there had not appeared such a classical work on Cactaceae. He himself had been working for many months in the same direction, and could be considered a competent judge. This unselfishness and the open, pleased recognition of others was one of the most outstanding character traits of Rose. He was kindheartedness itself. This was learned immediately on our first meeting in person, when in 1912 he spent several days with his wife visiting in Mortola, in order to see the cacti of the Riviera. That time he arrived with very large boxes of valuable new living plants for the Mortola garden, and also later shipment followed shipment, as on the other hand such went from Mortola to Washington and New York. Then came World War I, which tore me away from Mortola and finally also made impos sible the exchange of letters with North America. But hardly had the war, so sad for us, ended with an even sadder conclusion, with the shortages in Germany still terribly oppressive, than quite unexpectedly arrived the first rich gift parcels for me and mine from good Dr. Rose in Washington. And I was very surprised when one day the mail brought the first volume of the big new work, in which my studies on the opuntias are mentioned almost page for page. Soon living plants followed, and the old cordial relationship was reestablished."

Mrs. Elise Berger, wife of Alwin Berger, wrote this account of Dr. Rose's visit to La Mortola in 1912: "I don't remember ever seeing Mr. Berger so excited and busy with preparations over any other visitor, not even royalty, as when we heard that Dr. Rose was coming to see us. Unfortunately Mr. Berger had sprained his foot the day before and was unable to show him about. However, to avoid his visit being a failure, I was requested to bring upstairs all the herbarium specimens, the plants in mentholated spirits, books and no end of all kinds of notes on cacti, to his bedside. There sat the two cactus specialists one *in* bed, the other sitting *upon* the bed, and so many specimens on the bed covers, chairs and tables, it was almost impossible to get into the room. As nobody else knew where the plants set aside for Dr. Rose's inspection were to be found, I was kept pretty busy.

"They were so intent they decided to forego even meals. An egg apiece was all I could persuade them to eat during the two days. Dr. Rose said he could eat anyplace but here time was too precious to waste on meals. So there were no other incidents to relate of his visit. They were too busy.

"For days afterwards it was my unpleasant duty to extricate spines from blankets and upholstery.

"Even World War I which broke up so many friendships made no difference. In November, 1919 he sent us a huge food parcel knowing how welcome it would be and I shall never forget our children's delight with the ham, cocoa, coffee, rice and sweets, luxuries they had been deprived of so

long, not to mention the warm stockings Mrs. Rose had knitted. I shall always remember with deep gratitude the many kindnesses and the most unselfish help Dr. Rose showed us."

THE FINAL YEARS

In the mid 1920s, Dr. Rose had planned to make a trip to California to study again the native *Dudleya* (Crassulaceae), but his physical condition prevented him from doing so. Even while suffering, he still worked until the last moment. He had not been feeling well for a considerable time, but not to such an extent that his family and friends were concerned; in fact, on the day before he died, Dr. Rose had been active as usual at the Smithsonian Institute in the workroom that he had occupied for much of a 33-year period. So his sudden death (he died peacefully in his sleep) on the morning of May 4, 1928, came as a shock.

Like many scientists, Dr. Rose did not become wealthy, but lived a happy life in Washington, D.C., full of pleasant memories, surrounded by a devoted wife and loving children.

J. J. Verbeek Wolthuys wrote this tribute to Dr. Rose in *Succulenta:* "Rest in Peace, Dr. Rose.... Your hand is quiet now, but your spirit lives on in the work you loved... in your outstanding accomplishments... in our memories of you which serve as monuments... your loving kindness has been planted into the hearts of all who were honored by contact with you...."

"Rest in Peace...."

Fig. 2. This rare picture of Dr. Rose was taken in 1912 during his visit to Dr. Alwin Berger at Mortola, Italy. He was 50 years old at the time.

PAPERS ON SUCCULENT PLANTS

The following list contains all of Rose's papers on succulent plants under the publications in which they appeared.

Garden and Forest

Agave angustissima. 6(254): 5-6, ill., 1893.
Agave attenuata. 10: 95. ill., 1897.

Torreya

Undescribed species of Cuban cacti (with N. L. Britton). 12: 13-16, 1912.

Journal of the Washington Academy of Science

A new *Echeveria* from Mexico. 1: 267-269, ill., 1911.
Two new species of deerhorn cactus (with N. L. Britton). 12: 328-330, ill., 1922.

Monatsschrift Kakteenkunde

Mamillaria arida Rose spec. nov. (with Leopold Quehl). 23: 181, 1913.

Proceedings National Academy of Science

Recent exploration in the cactus deserts of South America. 2: 73-74, 1916.

Plant World

A revision of *Rhipsalis.* 19(9): 282-283, 1916.

Yearbook Carnegie Institution Washington

Relationships and distribution of the Cactaceae (with N. L. Britton). 14: 102-103, 1916.

Journal of the New York Botanical Garden

A new genus of Cactaceae (with N. L. Britton). 9(107): 185-189, plates 48-52, 1908.
Exploration in Lower California. 12: 263-272, 1911.
The tree-cactuses of the West Indies (with N. L. Britton). 26(310): 217-221, 1925.
Prof. Dr. Carlos Spegazzini 1858-1926. 28: 118-119, 1927.

Annual Report, Missouri Botanical Garden

Agave washingtonensis and other agaves flowering in the Washington Botanic Garden in 1897. 9: 121-126, plates 27-31, 1897.
Agave expatriata and other agaves flowering in the Washington Botanic Garden in 1898. 11: 79-83, plates 7-10, 1899.

Bulletin of the Torrey Botanical Club

Two new genera of Cactaceae (with N. L. Britton). 49(8): 251-252, 1922.

Bulletin of the New York Botanical Garden

New and noteworthy North American Crassulaceae (with N. L. Britton). 3(9): 1-45, 1903.

Cyclopedia of American Horticulture (by L. H. Bailey) *Agave,* pp. 33-36, 1900.

Contributions from the United States National Herbarium

List of plants collected by Dr. Edward Palmer in Lower California in 1889 (with G. Vasey). 1: 9-28, 1890.
A list of plants collected by Edward Palmer in Lower California and western Mexico in 1890 (with G. Vasey). 1(3): 63-90, plates 1-3, 1890.

List of plants collected by Dr. Edward Palmer in western Mexico and Arizona in 1890. 1(4): 91-127, plates 2-11, 1891.
List of plants collected by Dr. Edward Palmer in 1890 on Carmen Island. 1(5): 129-134, plates 12-14, 1892.
Report on a collection of plants made in the states of Sonora and Colima, Mexico, by Dr. Edward Palmer, in the years 1890 and 1891. 1(9): 293-366, 1895.
Studies of Mexican and Central American plants No. 1. 5(3): 109-144, plates 2-17, 1897.
Studies of Mexican and Central American plants No. 2. 5(4): 145-200, plates 18-25, 1899.
Notes on the useful plants of Mexico. 5(4): 209-259, plates 28-64, 1899.
Studies of Mexican and Central American plants No. 3. 8(1): 1-55, plates 1-12, 1903.
Studies of Mexican and Central American plants No. 5. 10(3): 79-132, plates 16-43, 1906.
Thompsonella, a new genus of Crassulaceae from Mexico (with N.L. Britton). 12(9): 391-392, plates 44-45, 1909.
Rediscovery of *Echeveria carnicolor*. 12: 393, plate 46, 1909.
Three new species of Crassulaceae from Guatemala. 12: 395-396, plates 47-48, 1909.
Rediscovery of *Cereus nudiflorus*. 12: 397-398, plates 49-51, 1909.
A species of *Pereskia* from Guatemala. 12(9): 399, plates 52-54, 1909.
Studies of Mexican and Central American plants No. 6. 12(7): 259-302, 1909.
New species of *Opuntia* from Arizona. 12(9): 401-402, plate 55, 1909.
Echinocereus baileyi, a new cactus from Oklahoma. 12(9): 403, plates 56-57, 1909.
Nopalea lutea, a new cactus from Guatemala. 12(9): 405, plate 58, 1909.
The genus *Cereus* and its allies in North America (with N.L. Britton). 12(10): 413-437, plates 61-76, 1909.
Five new species of Crassulaceae from Mexico. 12(10): 439-440, plates 79-81, 1909.
Three new species of *Echeveria* from southern Mexico (with J.A. Purpus). 13: 45-46, plates 10-14, 1910.
Studies of Mexican and Central American plants No. 7. 13(9): 291-311, 1911.
The genus *Talinum* in Mexico (with P.C. Standley). 13(8): 281-288, plates 44-45, 1911.
Report on a collection of plants from the Pinocate region of Sonora (with P.C. Standley). 16(1): 5-21, plates 3-17 1912.
Studies in Cactaceae–I (with N.L. Britton). 16(7): 239-243, plates 66-73, 1913.
The genus *Epiphyllum* and its allies (with N.L. Britton). 16(9): 255-263, plates 78-84, 1913.
Cactaceae—cactus family. *In* Flora of Utah and Nevada by Ivar Tidestrom. 25: 364-369, 1925.

North American Flora

Crassulaceae (with N.L. Britton). 22(1): 7-74, 1905.

Addisonia

Pachyphytum longifolium. Long-leaved Pachyphytum. 1(1): 7-8, plate 4, 1916.
Echeveria setosa. Setosi Echeveria. 1(1): 11, plate 6, 1916.
Echeveria carnicolor. Flesh-colored Echeveria. 1(2): 25, plate 13, 1916.
Sedum diversifolium. Diverse-leaved stonecrop. And Sedum humifucum. Humble stonecrop. 1(4): 61-62, plate 31, 1916.
Echeveria nodulosa. Red margined Echeveria. 3(2) 23-24, plate 92, 1918.
Byrnesia weinbergii. Weinber's stonecrop. 7(3): 37-38 plate 243, 1922.
Echinocereus baileyi. Bailey's hedgehog-cereus. 7(3): 41, plate 245, 1922.
Graptopetalum pachyphyllum. Thick-leaved Graptopetalum. 7(3): 45, plate 247, 1922.
Lenophyllum texanum. 8(2): 21, plate 267, 1923.
Sedum diffusum. Spreading stonecrop. 8(2): 27, plate 270, 1923.
Dudleya arizonica. Arizona dudleya. 8(3): 35, plate 274, 1923.
Hamatocactus setispinus. Twisted-rib cactus. 8(3): 45-46, plate 279, 1923.
Graptopetalum rusbyi. Rusby's stonecrop. 9(2): 31-32, plate 304, 1924.
Echeveria whitei. White's Echeveria. 10(3): 47-48, plate 344, 1925.
Graptopetalum bartramii. Bartram's stonecrop. 11(1): 1-2, plate 353, 1926.
Dudley albiflora. White-flowered Dudleya. 12(2): 31, plate 400, 1927.
Rhipsalis neves-armondii. Neves-armond's mistletoe-cactus. 12(4): 59, plate 414, 1927.

Desert

Crassulaceae (order Rosales, family 2) (with N.L. Britton). 1(5): 54, 1929. (A key to the species from *North American Flora*, 1905.)

Carnegie Institution of Washington

The Cactaceae (with N.L. Britton)
Vol. 1, pages 1-236, 302 figures, 36 plates, 1919.
Vol. 2, pages 1-239, 305 figures, 40 plates, 1920.
Vol. 3, pages 1-255, 250 figures, 24 plates, 1922.
Vol. 4, pages 1-318, 263 figures, 37 plates, 1923.

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