NATIONAL ACADEMY OF SCIENCES

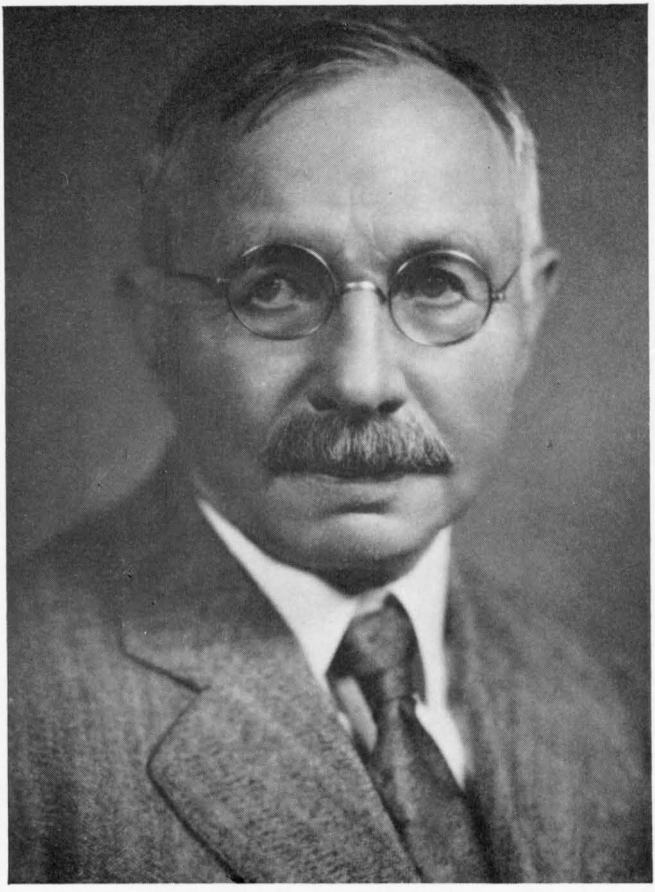
RUDOLPH RUEDEMANN

1864—1956

A Biographical Memoir by

JOHN RODGERS

Biographical Memoir



Rudolf Ruedemann.

RUDOLF RUEDEMANN

October 16, 1864–June 18, 1956

BY JOHN RODGERS

RUDOLF RUEDEMANN was born in Georgenthal, Saxe-Coburg-Gotha, the son of Albert and Franziska (Seebach) Ruedemann. His paternal ancestors had been Lutheran ministers for nearly 300 years, but his father was a grocer in a small town in the Thüringerwald. Both father and mother were enthusiastic amateur naturalists and, abetted also by a helpful science teacher in the Progymnasium, Ruedemann early acquired an interest in botany. At the University of Jena, however, he changed to geology (petrology at first), and in 1887 he received the degree of doctor of philosophy.

He then took a position as assistant in stratigraphy and paleontology at the University of Strassburg and earned a second doctor's degree. It was here that he met his wife, Elizabeth Heitzmann, whom he married on October 17, 1890. To eke out the family income, he secured a license to teach in secondary schools, and then, judging his chances of obtaining a higher university post in Germany very small, he emigrated to the United States in 1892.

Very soon after his arrival, he obtained a position teaching science in the high school at Lowville, New York; a year later he moved to a similar position at Dolgeville, New York. It was in the years at Dolgeville that he took up the study of fossil graptolites (a fairly large class of extinct animals *incertae sedis*),

being stirred to it by some extraordinarily well-preserved material showing the complete ontogeny of *Diplograptus,* the first such material to be described in detail.

His studies of these and other fossils brought him into contact with James Hall and John M. Clarke at the State Museum in Albany, New York, which Hall had made one of the major centers of paleontologic research in North America. After Hall's death in 1898, Clarke, who succeeded Hall as State Paleontologist, urged Ruedemann to stand for the examination for Assistant State Paleontologist; he was appointed to this post in March 1899 and he held it until 1926, when he succeeded Clarke as State Paleontologist. He retired in 1937 but worked actively at the Museum until 1942. He continued to live in Albany until his death in 1956; he was survived by his wife, seven children (four with doctor's degrees), 16 grandchildren, and 19 great-grandchildren.

Although Dr. Ruedemann's paleontologic and stratigraphic interests were broad (he made significant studies of corals, conularids, cephalopods, trilobites, and eurypterids), his central interest remained the graptolites, of which he was for decades the outstanding specialist in North America. In his earlier years at Albany, he specialized in the Ordovician graptolites of eastern New York State, and soon he showed that they could be readily zoned and that the black shale facies in which they mainly occur represents a far longer time span than had been realized. In particular, by 1912 he had used his findings to demonstrate a major lateral facies change from limestone eastward through black shale into graywacke (we would now say flysch), one of the very first demonstrations of large-scale facies changes in American geology. (His appreciation of the significance of such changes he probably owed to his contact with Johannes Walther at Jena.) Part of this change takes place in the flat-lying strata of east-central New York, but part in the badly deformed rocks at the west edge of the Appalachian

orogenic belt, and Ruedemann's work played an important part in the unraveling of that deformation; in particular, he was one of the first, if not the first, to suggest (in 1909) the allochthonous or klippe hypothesis for the so-called Taconic slate, a hypothesis by now very widely accepted.

As a result of his acknowledged preeminence in the study of graptolites, graptolite collections from all over North America were sent to him at Albany for specific determination and stratigraphic control, and he thus became thoroughly familiar with the graptolite faunas of the whole continent. Two major works developed from this familiarity. One of these (in the 1930s) was a detailed study of the other fossils associated with the graptolites, which he showed to represent not a benthonic but a planktonic fauna, and he further concluded that the graptolitic black shale and associated strata were deposited in large part in deep water; this idea was not well received at the time, but the recognition of the role of turbidity currents in the deeper ocean about 1950 showed that Ruedemann had been quite right. The other major work was his monumental memoir on the graptolites of North America, his last published work.

During his long career, Ruedemann concerned himself with many other geological topics. Some of these interests were ephemeral, and nothing came of them, but more than once he was a pioneer; for example, already in 1897 he used the orientation of fossil graptolites to deduce the direction of former oceanic currents, and in 1928 he contributed substantially to the recognition that the Capitan limestone (Permian of West Texas) is a fossil reef.

Dr. Ruedemann was widely and favorably known among paleontologists and geologists all over the world. He was elected president of the Paleontological Society in 1916 and a member of the National Academy of Sciences in 1928, as well as corresponding or honorary member of several European societies. But he was always a very informal person, especially cordial and

helpful to beginning students, as the present writer can attest, and he was always willing to relate, in a German accent that seemed to thicken with the years, a string of delightful anecdotes, often funny and irreverent, but often pertinent and revealing.

In her memorial to him, the late Dr. Winifred Goldring, his successor as State Paleontologist of New York, summed up his life as follows:

"There were just two important interests in Doctor Ruedemann's life, his scientific work and his family. He often remarked that he judged all women by comparison with his wife; and he relied greatly upon her good sense and judgment, realizing that she was more practical than he. In spite of the fact that he pursued his work at home as well as in the office, he still found time to be with his children when they were young; and he spoke many times of the long Sunday hikes he had with them. In later years he took deep satisfaction in their successes. He was very proud of his family and rightly so. During the course of a conversation in his last years, Doctor Ruedemann remarked that he had been happy in his work and had enjoyed seeing it in print, that he had been happy with his family, notwithstanding the difficult years, that his life as a whole had been a satisfaction to him and he had no regrets—a wonderful way to feel at the end of a long life."

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KEY TO ABBREVIATIONS

Am. Geologist = American Geologist
Am. J. Sci. = American Journal of Science
Am. Naturalist = American Naturalist
Bull. Geol. Soc. Am. = Bulletin of the Geological Society of America
Geol. Soc. Am. Mem. = Geological Society of America Memoir
J. Paleontol. = Journal of Paleontology
N.Y. State Geol. Ann. Rept. = New York State Geologist Annual Report
N.Y. State Mus. Ann. Rept. = New York State Museum Annual Report
N.Y. State Mus. Bull. = New York State Museum Bulletin
N.Y. State Mus. Mem. = New York State Museum Memoir
Pan-Am. Geol. = Pan-American Geologist
Proc. Am. Phil. Soc. = Proceedings of the American Philosophical Society
Proc. Geol. Soc. Am. = Proceedings of the Geological Society of America
Proc. Nat. Acad. Sci. = Proceedings of the National Academy of Sciences
Proc. U.S. Nat. Mus. = Proceedings of the U.S. National Museum
Smithsonian Inst. Misc. Coll. = Smithsonian Institution Miscellaneous Collections
Univ. Tex. Bull. = University of Texas Bulletin

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