Dr. G. A. Roberts, veterinarian, both of this station, for their valuable assistance and co-operation.

W. A. WITHERS
B. J. RAY
NORTH CAROLINA AGRICULTURAL EXPERIMENT STATION,
RALEIGH, N. C.,
April 25, 1912

SOCIETIES AND ACADEMIES

THE ACADEMY OF SCIENCE OF ST. LOUIS

THE Academy of Science of St. Louis met at the Academy building Monday evening, April 15, 1912, President Engler in the chair; an attendance of 65.

Professor A. S. Langsdorf, of Washington University, addressed the academy on "Transient Electrical Phenomena." The analogous conditions in various forms of mechanical systems and electrical circuits was shown and this was followed by a discussion of oscillating currents that may be produced in a transmission line. The necessity for guarding against excessive and dangerous voltages and currents arising from oscillation was pointed out, particular attention being given to the conditions obtaining in a transformer at the moment of switching such a device on to the live current. Finally the short circuit conditions in large alternating current generators was described so that dangerous rises of voltage accompanied by a rush of current could occur and the measures employed to prevent this condition were explained.

Dr. Charles H. Turner gave an illustrated account of "Results of Recent Experiments on the Homing of Ants." The results of the various investigators on the behavior of ants was divided into four groups and briefly discussed. About ten years ago the author began a series of experiments on ants and the main purpose of this paper was to compare the results obtained with those of Cornetz and Santsci. After a detailed comparison the final conclusion from all these experiments was summed up as follows: "Ants are much more than reflex machines; they are self-acting creatures guided by memories of past individual experience. These associative memories are usually complexes of sensations contributed by several different kinds of sense organs and include an awareness of distances and of direction."

Dr. Arthur E. Bostwick, of the St. Louis Public Library, read a paper on "Atomic Theories of Energy."

Professor Wm. H. Roever, of Washington University, exhibited and explained "A Mechanism for Illustrating Lines of Force."

THE Academy of Science of St. Louis met at the Academy building Monday evening, May 6, 1912, President Engler in the chair.

Professor J. F. Abbott talked on "The Water Boatmen, an Unexplored Corner of the Insect World." After giving an account of the systematic position of the water boatmen, Professor Abbott discusses their development from the egg to maturity, a particularly interesting feature being the deposition of the eggs upon the bodies of crayfish.

Dr. Charles M. Gill gave an illustrated talk on "Recreation Studies in Estes Park, Colorado." The ascent of Long's Peak was described and some of the more interesting glaciers discussed. The necessity of protecting the natural conditions of Estes Park, for which a bill is now pending before congress, was referred to.

Mr. Frederick Hecker, of Kansas City, discussed the "Microscopical Study of Living Organisms and their Growth Rate," following it with a demonstration of the technique involved.

THE Academy of Science of St. Louis met at the Academy building Monday evening, May 20, President Engler in the chair.

Dr. A. S. Pearse, of St. Louis University, gave an illustrated talk on "Fiddler Crabs" with particular reference to the color variation in the forms found at Manila, P. I.

Mr. Phil Rau read a paper on the life history of the "Devil Horse." After giving a detailed account of the anatomy of the devil horse, or praying mantis, the author described the character of the egg case, the emergence of the mantis from this case and the carnivorous habit of the insect. As the result of his series of experiments made to determine how and why the colors of the mantis change, Mr. Rau found that the green nymphs are capable of changing to a dark gray when the environment is dark and when once the gray color is acquired it is permanent despite any environmental conditions. Green insects in all probability remain green indefinitely if the environment is favorable to that color. The paper concluded with some observations regarding the mating habits of the mantis and a detailed description of the making of the egg case.

GEORGE T. MOORE,
Corresponding Secretary