

other conditions which are however of secondary importance. As a requisite, the precipitate formed must be permeable to the liquid solution used; in this case the silver nitrate. If for example, lead acetate be used instead of silver nitrate no ring formation occurs, because the lead chromate under these conditions is impervious to lead acetate. Not only is it impervious to lead acetate but if silver nitrate replace the solution of lead acetate after the precipitate of lead chromate is formed, silver nitrate will not penetrate the lead chromate wall, and no ring formation will occur. For the same reason if the silver nitrate and potassium bichromate solutions are reversed, no ring formation will occur.

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## THE NORTH CAROLINA ACADEMY OF SCIENCE

The twentieth annual meeting of the North Carolina Academy of Science was held on April 29 and 30, 1921, at Wake Forest College, Wake Forest, N. C., with about 50 members present, and the following program was carried out.

Presidential address. The age of insects, Professor Z. P. Metcalf, State College.

### PAPERS

*The genus Raspaillia and the independent variability of diagnostic features:* H. V. WILSON.

*Current research in organic chemistry at the University of North Carolina:* A. S. WHEELER.

*Judgments of length, mass and time:* A. H. PATTERSON.

*A photometric study of the fluorescence of iodine vapor:* W. E. SPEAS.

*Some fungi new to North America or the South:* W. C. COKER.

*Breeding results from overwintering cocoons of the Polyphemus moth:* C. S. BRIMLEY.

*On the polyembryonic development of the parasite, Copidosoma gelechiae Howard:* R. W. LEIBY.

*New North Carolina gall types:* B. W. WELLS.  
*The Lorentz transformation in Einstein relativity:* ARCHIBALD HENDERSON.

*Solid culture media with a wide range of hydrogen and hydroxyl ion concentration:* F. A. WOLF and I. V. SHUNK.

*Notes on the ecology and life history of the Texas horned lizard:* J. P. GIVLER.

*Ionizing potentials of gases by negative electrons:* A. A. DIXON.

*An interesting anomaly in the pulmonary veins of man:* W. C. GEORGE.

*The inheritance of economic qualities in cotton:* R. Y. WINTERS.

*Questions arising from the discovery of occasional vertebrate hermaphrodites, with a demonstration of a case in a pig:* HARLEY N. GOULD. (Lantern.)

*The artificial incubation of turtle eggs:* BERT CUNNINGHAM. (Lantern.)

*Effects of desiccation on cotton seeds and the seed-borne element of cotton anthracnose:* S. C. LEHMAN.

*The anatomy of Angiopteris:* H. L. BLUMQUIST. (Lantern.)

*The electron, its measurements and applications:* J. B. DERIEUX. (Lantern.)

*Further studies on the pure culture of diatoms:* BERT CUNNINGHAM and J. T. BARNES. (Lantern.)

*Aphidius, a parasite of the cotton louse:* H. SPENCER.

*From egg to frog in two months:* H. V. WILSON.  
*Some considerations in defense of the general biology course:* J. P. GIVLER.

*Some questions concerning the teaching of physics in North Carolina:* C. W. EDWARDS.

*Notes on the salamanders of the Cayuga Lake Basin, N. Y., with reference to eggs and larvae:* JULIA MOESSEL HABER.

*A more remarkable shoot:* WILLIAM F. PROUTY.  
*Relationship of temperature and relative humidity to the distribution of cockroaches:* V. R. HABER.

*Recent views on the nutritive properties of milk:* J. O. HALVERSON.

*Notes on recently discovered Miocene whale:* WILLIAM F. PROUTY.

*A method of differentiating mucous and serous cells:* MISS E. G. CAMPBELL.

### DEMONSTRATIONS

*Metamorphosed frogs (Chorophilus), reared from artificially inseminated eggs in two months:* H. V. WILSON.

*New North Carolina galls:* B. W. WELLS.

*Shells of Raleigh turtles:* C. S. BRIMLEY.

*Examples of Fulgoridae:* Z. P. METCALF.

At the business meeting President Metcalf announced that affiliation with the American Association for the Advancement of Science has been completed except for official notice from the Permanent Secretary of the Association.

The following officers were elected for the ensuing year: president, Jas. L. Lake, professor of physics, Wake Forest College; vice-president, Dr. J. H. Pratt, state geologist; secretary-treasurer, Bert Cunningham, professor of biology, Trinity College; additional members of the Executive Committee, H. R. Totten, University of North Carolina, R. N. Wilson, Trinity College, and F. A. Wolf, State College.

C. S. BRIMLEY,  
Acting Secretary