c.c. was used nearly filled with water and a uniform layer of medium-sized crystals placed on an iron gauze shelf midway between the bottom and the surface of the water. Any change of absorption was noted as the crystals went into solution. Slight changes took place as the material dissolved and went to the bottom, yet after a thorough stirring when solution was complete the readings of the electroscope returned to almost the initial value. A small decrease in absorption was noted, however, in the majority of the experiments.

It is hoped to repeat these experiments for mercury and solutions, using more refined apparatus and methods, and to study the effect of crystalline structure on reflection by an examination of changes in absorption for substances of high molecular weight which crystallize in two forms such as lead nitrate, mercury perchloride and mercury iodide.

In conclusion I wish to express my indebtedness to Professor Sir Ernest Rutherford for suggesting this general field of research; also to Dr. Ernest Marsden for many helpful ideas.

P. B. Perkins

Brown University

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

The 561st meeting of the society was held in the Assembly Hall of the Cosmos Club, Saturday, December 2, 1916, called to order by President Hay at 8 P.M., with 50 persons in attendance.

The following program was rendered:

The Discovery of an Interesting New Tardigrade: W. P. Hay.

Professor Hay gave a brief description of a tardigrade belonging to the genus *Batillipes* discovered by him some years ago at Beaufort, N. C. It is closely related to *B. mirus* Richters but differs from that species in a number of important characters.

The structure and relationship of the tardigrades was discussed and the conclusion was reached that *Batillipes,* in spite of its evident specialization along certain lines, is probably the most primitive genus of the group.

From *Batillipes* through *Halechiniscus* to *Oreella* and *Echiniscus* was suggested as one line of development, while from *Echiniscoides* through *Milnesium* to *Macrobiotus* and *Diphascon* appears to be another. The genus *Tetrakentron* with its single species *T. synaptæ* shows a high degree of specialization due to parasitism and *Microlyda* is probably the larval form of *Halechiniscus.*

Attention was called to the habitat of the bear animalcules belonging to these genera. Five of them, *Batillipes, Halechiniscus, Microlyda, Tetrakentron* and *Echiniscoides* are marine. *Echiniscus* and *Oreella* are strictly terrestrial. *Macrobiotus* is mostly terrestrial or lacustrine but is represented in salt water by at least two species. *Diphascon* is terrestrial and lacustrine.

The fact that the majority of the genera are marine and that this list includes all the more primitive genera points strongly to a marine origin for the group. It also supports the idea advanced by Professor Richters in 1909 that the tardigrades are probably most closely related to the chætopod worms and should be removed from the class Arachnida in, or near, which the group is usually placed in our zoological text-books.

Professor Hay's communication was illustrated by charts and diagrams.

Exhibition of Venezuelan Plants and Fruits: J. N. Rose.

Dr. Rose had on exhibition a large table full of fruits, fruit products and various articles made of parts of Venezuelan plants. He explained their usage and described the plants from which they were obtained. The specimens were obtained for the most part in the vicinity of La Guaira and Caracas. Dr. Rose's communication was discussed by Messrs. H. Pittier, M. W. Lyon, Jr., and others.

Poisonous Snakes: M. W. Lyon, Jr.

Dr. Lyon gave an account of the various specific substances that have been found in snake venoms, and outlined their modes of action on the various tissues of bitten animals. He spoke of the various antiserums that have been prepared against these venoms, and their therapeutic uses. He also called attention to the non-specific treatment of snakebites in the light of modern statistics and experiments. He then gave a brief outline of the classification of venomous snakes, their geographic distribution, of the development and structure of the poison gland and fang. His communication was illustrated by lantern slide views of skulls, glands and fangs of poisonous snakes, of types of poisonous snakes and of some of the histological changes caused by snake venom. This communication was discussed by Messrs. A. A. Doolittle, H. Pittier, H. M. Smith, H. E. Ames and T. E. Wilcox.

M. W. Lyon, Jr.,
Recording Secretary