

purposes of strict accuracy, therefore, the acid should be added to normal saline or Ringer's solution, but for class purposes the distilled water will serve.

The experiment has been designed not only to show the stopping of ciliary action at a definite hydrogen-ion concentration, but also to bring out the difference in effect between an organic acid, such as acetic, and a mineral acid, such as hydrochloric. In the latter case even a concentration, $p_H = 2$, thymol blue as indicator, will not stop the beating of the cilia in less than 15 minutes. The greater concentration of hydrogen-ion required for the mineral acid than for the organic acid is of course correlated with the difference in rate of penetration of these acids into tissues.

Furthermore, in order to obtain comparable results the pieces of epithelium must be from corresponding regions of the frog. If the tissue is taken from the more posterior levels, *i. e.*, from within the esophagus itself, where the cilia are very long, it is found that the beating continues for a longer time in a given concentration of acid than in the pieces from more anterior levels, *i. e.*, the back of the mouth, where the cilia are very short. The experiment therefore brings out the fact that susceptibility to acid decreases in passing from anterior to posterior levels of the alimentary tract.

J. M. D. OLMSTED
J. W. MACARTHUR

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Reference: W. M. Clark, 1920, *The Determination of Hydrogen-Ions*.

THE SOCIETY OF MAMMALOGISTS

THE fourth annual meeting of the Society of Mammalogists was held in New York City on May 16 to 18, 1922, where the society was invited to hold its meetings at the American Museum of Natural History. Besides the regular business sessions and the election of new officers, papers were presented, and the program is given as follows:

TUESDAY, MAY 16

Afternoon Session, 2:00 P.M.

The present status of the elk: E. A. GOLDMAN.
Mammals of the mountain tops: WILLIAM L.

FINLEY. (Presented by John Treadwell Nichols).

The water supply of desert mammals: VERNON BAILEY.

A quantitative determination of damage to forage by the prairie-dog, cynomys gunnisoni zuniensis Hollister: WALTER P. TAYLOR.

Studies of the Yellowstone wild life by the Roosevelt Station: CHARLES C. ADAMS.

The part played by mammals in the World War: ERNEST HAROLD BAYNES.

Evening Session, 8:00 P.M.

The members of the society were invited to the new home of the Explorers' Club, 47 West 76th Street. The board of directors of the club extended the courtesy of the club to the members of the society during their session.

WEDNESDAY, MAY 17

Morning Session, 10:00 A.M.

The frequency and significance of bregmatic fontanelle bones in mammals: ADOLPH H. SCHULTZ.

A fossil dugong from Florida: GLOVER M. ALLEN.

Certain glands in the dog tribe: ERNEST THOMPSON SETON.

The elephant in captivity: W. H. SHEAK.

The burrowing rodents of California as agents in soil formation: J. GRINNELL.

Afternoon Session, 2:00 P.M.

Symposium on the Anatomy and Relationships of the Gorilla:

How near is the relationship of the gorilla-chimpanzee stock to man? W. K. GREGORY.

Notes on the comparative anatomy of the gorilla: G. S. HUNTINGTON.

Was the human foot derived from a gorilloid type? D. J. MORTON.

Reichenow's observations on gorilla behavior: J. H. MCGREGOR.

On the sequence of eruption of permanent teeth in gorilla and man: MILO HELLMAN.

Phylogenetic relations of the gorilla: evidence from brain structure: FREDERICK TILNEY.

Evening Session, 8:00 P.M.

The motion picture as a medium for intimate animal studies: ARTHUR H. FISHER.

Motion pictures, some showing slow motion, of anthropoidea, sea lion, Barbary sheep, kangaroo and yak, and the habits of the beaver: RAYMOND L. DITMARS.

Motion pictures of sea-elephants: CHARLES H. TOWNSEND.

THURSDAY, MAY 18

Morning Session, 10:00 A.M.

Close of the age of mammals: HENRY FAIRFIELD OSBORN and H. E. ANTHONY.

Food-storing by the meadow-mouse: GLOVER M. ALLEN.

An evolutionary force of a wide range: ERNEST THOMPSON SETON.

The meetings were well attended, and among the members present were mammalogists who represented the leading institutions of the country, such as the United States National Museum, the Bureau of the Biological Survey, the Field Museum of Natural History, the Museum of Comparative Zoology, the Academy of Natural Sciences of Philadelphia, the American Museum of Natural History and the New York Zoological Society.

Among the many interesting papers that were given before the mammalogists was the "Symposium on the Anatomy and Relationships of the Gorilla." At this session the attendance was probably greater than at any of the others, and representatives of the press were present to make the most of a subject in which the public is at present so keenly interested. The consensus of opinion as expressed by the speakers in this symposium was that the gorilla stands very high among the anthropoids in its relationship to man, and the evidence presented, together with the detailed descriptions of the man-like characters of the anthropoids, set forth data for an argument which the anti-evolutionists would have great difficulty to refute.

At the last of the meetings for the presentation of papers, the "Close of the Age of Mammals" was given by Professor Henry Fairfield Osborn and Mr. H. E. Anthony. Professor Osborn took as his thesis the very rapid disappearance of our mammalia, which leads to the conclusion that the age of mammals will come to a close at no very distant date. After outlining the inception and the development of the age of mammals, illustrating his points by distributional maps, Professor Osborn stated that this age had reached its greatest development in the late Pliocene and early Pleistocene, at which time the glacial periods began the destruction which is receiving its final acceleration to-day at the hands of man. Having

brought this outline of the history of the age of mammals down to the present day, Professor Osborn was followed by Mr. Anthony, who showed a chart of statistics and gave figures on the great destruction of mammal life which may be laid at the door of the fur trade. A discussion of the papers followed, during which Dr. W. T. Hornaday, the noted advocate of wild life conservation, spoke at some length upon the disappearance of present day mammals and urged the great necessity of untiring efforts to stave off complete extermination.

Further discussion was given by Dr. W. D. Matthew, Dr. Wilfred H. Osgood, Dr. Charles C. Adams and Dr. E. W. Nelson, all of whom were inclined to believe that it was no exaggeration to consider that the "Age of Mammals" was rapidly coming to a close, and that stringent measures are necessary to protect the surviving members. Dr. Adams, who is director of the Roosevelt Wild Life Forestry Extirpation Station at Syracuse, N. Y., maintained that the only hope lies in education, not so much of the adult, as of the younger generation, and pointed out the advisability of establishing numbers of wild life preserves, so that people might come to know the wild life of their own region by visiting the local preserves.

The mammalogists were the guests of the American Museum at a luncheon on Tuesday, May 16, and were guests of the New York Zoological Society at luncheon on Thursday, May 18.

The annual dinner was held the evening of Wednesday, May 17, at the Hotel San Remo.

At the annual election of officers, all of those holding office were re-elected.

At the close of the morning session of Thursday, the members adjourned to the North American Hall of the American Museum where, by short exercises, the museum dedicated this hall to the memory of the late Dr. J. A. Allen, who was the society's only honorary member. The hall hereafter will be known as the J. A. Allen Hall of North American Mammals.

President Henry Fairfield Osborn presided and, on behalf of the trustees, made the dedication of the hall, which was accepted on behalf of the Division of Zoology and Zoogeography of the museum by Dr. F. M. Chapman. An

appreciation of Dr. Allen's services to natural history was given by Dr. E. W. Nelson, president of the Society of Mammalogists.

At the close of the luncheon given by the New York Zoological Society, the mammalogists were taken for a private view of the new halls of the National Collection of Heads and Horns and a tour through the park under the guidance of the officers of the Zoological Society.

PROGRESS IN ANIMAL PHOTOGRAPHY

The American Museum had planned for a prize exhibition of photographs of mammals to be held at the time of the meeting of the American Society of Mammalogists. This exhibition was opened to the public on May 15, and judges for the exhibition were appointed by President Nelson of the American Society of Mammalogists at the first business meeting of the society. The board of judges appointed by Dr. Nelson was as follows: Dr. Wilfred H. Osgood, chairman, Dr. Witmer Stone, Mr. Charles R. Knight, Mr. James L. Clark and Mr. H. E. Anthony.

The photographs were exhibited in the Hall of Forestry on the first floor of the museum, where they will remain on exhibition for a month. Some 1,654 photographs were received for this exhibition and there were 139 contributors. Requests for photographs and conditions of the contest had been drawn up and submitted by an American Museum Committee as follows: Mr. H. E. Anthony, chairman, Mr. Herbert Lang, Dr. Robert Cushman Murphy and Dr. G. Clyde Fischer, but the credit for the very unusual and splendid display of photographs which was brought together must be given to Mr. Herbert Lang, who worked day and night to make the exhibition a success. The unanimous opinion of the many who have seen this exhibition has been that it is easily the finest exhibition of mammal photographs ever displayed in this country. So many unusual photographs were submitted that the judges found it a difficult task to award the prizes, but finally made the following selection:

1. PHOTOGRAPHS OF MAMMALS IN THE WILD STATE

First prize: John M. Phillips, Mountain Goat.

Second prize: Norman McClintock, White-tailed Deer.

Third prize: Edmund Heller, Mountain Sheep.

First honorable mention: Carl E. Akeley, Hartebeest.

Second honorable mention: Donald R. Dickey, Deer.

Third honorable mention: Kermit Roosevelt, African Elephant.

Fourth honorable mention: Edward Mallinckrodt, Brown Bear.

Fifth honorable mention: Donald B. MacMillan, Polar Bear.

II. PHOTOGRAPHS OF MAMMALS IN CAPTIVITY

First prize: Elwin R. Sanborn, New York Zoological Park, Chimpanzee.

Second prize: J. E. Haynes, Bison Stampede.

Third prize: W. Lyman Underwood, Bay Lynx.

First honorable mention: Mr. and Mrs. Ernest Harold Baynes, Wolf.

Second honorable mention: J. B. Pardoe, Flying Squirrel.

Third honorable mention: Joseph Dixon, Cougar Kittens.

Fourth honorable mention: Leland Griggs, Fox Head.

Fifth honorable mention: Arthur H. Fisher, Lioness.

JOEL A. ALLEN MEMORIAL

One of the most important measures taken up by this meeting of the American Society of Mammalogists was the formulation of plans and the appointment of a committee for establishing a publication fund to be known as the J. A. Allen Memorial Fund. This fund has been set at \$10,000, and the interest from this sum, when it has been properly invested, will be used by the American Society of Mammalogists for the publication of papers to constitute a series of continually appearing memorials to the late Dr. J. A. Allen. The committee appointed to raise this fund, and given full powers for this purpose by the society is as follows: Mr. Madison Grant, chairman, President Henry Fairfield Osborn, Mr. Childs Frick, Dr. George Bird Grinnell and Mr. H. E. Anthony.

It is expected that friends of Dr. J. A. Allen, mammalogists and students of wild life throughout the country will give their support toward the raising of this fund, since natural science has never had a more devoted student than Dr. J. A. Allen, and the purposes for which the fund will be devoted are outlined to give the greatest possible encouragement to research in mammalogy.