

and more than that height on the hills east of Macclesfield. Boulders from the Lake District are scattered over much the same area and attain the same elevation, but extend, as might be expected, rather farther to the east in Lancashire. They also have been found on the eastern side of the Pennine watershed, perhaps the most remarkable instances being in the dales of the Derbyshire Derwent and on the adjacent hills as much as 1,400 feet above the sea-level.³⁴ A third remarkable stream of erratics from the neighborhood of the Arenig Mountains extends from near the estuary of the Dee right across the paths of the two streams from the north, its eastern border passing near Rugeley, Birmingham and Bromsgrove. They also range high, occurring almost 900 feet above sea-level on Romsley Hill, north of the Clents, and being common at Gloppa. Boulders also from the basalt mass of Rowley Regis have traveled in some cases between four and five miles, and in directions ranging from rather west of south to northeast; and, though that mass hardly rises above the 700-foot contour line, one lies with an Arenig boulder on Romsley Hill. From Charnwood Forest, the crags of which range up to about 850 feet above sea-level, boulders have started which have been traced over an area to the south and west to a distance of more than twenty miles.

T. G. BONNEY

(*To be concluded*)

THE AMERICAN FISHERIES SOCIETY

THE American Fisheries Society will hold its Fortieth Anniversary Meeting in New York City, September 27 to 29, 1910.

On Tuesday, the 27th, the society will meet at the New York Aquarium, in Battery Park, at 10 A.M. The members will be welcomed by Director Townsend, with an address on "The Conservation of Our Rivers and Lakes." The

³⁴ Communication from Dr. H. Arnold-Bemrose.

regular reading and discussion of papers will follow. A luncheon will be provided at the Aquarium by the New York Zoological Society. The afternoon session will begin at 2 P.M.

On Wednesday, the 28th, the meeting will be held at the American Museum of Natural History, 77th Street and Central Park, West. The morning session will begin at 10 o'clock; the afternoon session at 2.30. A luncheon will be provided by the trustees of the museum. All papers requiring the use of the stereopticon will be presented on Wednesday, in order that advantage may be taken of the excellent facilities afforded by the Museum.

On Thursday, the 29th, meetings will again be held at the aquarium at 10 A.M. and at 2 P.M.

The Hotel Navarre, at 38th Street and 7th Avenue, has been selected as the headquarters of the society, and special rates have been secured. It is centrally located in a district containing most of the theaters and many of the larger hotels and restaurants. It is four blocks from the Subway, five blocks from the Sixth and Ninth Avenue elevated stations, eight blocks from the Grand Central Station and six blocks from the new Pennsylvania Station. Accommodations should be reserved in advance, if possible.

No special entertainments have been arranged for the meeting in New York, the committee being of the opinion that the visiting members will prefer the amusements afforded by the city.

The Fishmongers Association extends a cordial invitation to the members of the society to visit the Fulton Fish Market, Pier 17, East River, foot of Fulton Street. The market should be visited in the morning—the earlier the better.

Correspondence intended for the officers or members of the society should be sent in care of the New York Aquarium, Battery Park.

Members expecting to be present are urgently requested to so inform the chairman, in order that complete arrangements may be made.

CONTRIBUTORS AND TITLES OF PAPERS TO BE READ

John P. Babcock, Deputy Fish Commissioner of British Columbia, Victoria, B. C.: "Some Experiments in the Burial of Salmon Eggs, suggesting a new Method of hatching Salmon and Trout."

Dr. S. P. Bartlett, Field Superintendent U. S. Fisheries Station, Quincy, Ill.: "Rescue Work—The Saving of Fishes from Overflowed Lands."

Dr. T. H. Bean, State Fish Culturist of New York, Albany, N. Y.: "Notes on the Black Basses, with Special Reference to their Cultivation in Ponds."

D. C. Booth, Superintendent U. S. Fisheries Station, Spearfish, S. D.: "Fish Cultural Possibilities of the National Preserves."

Dr. H. C. Bumpus, Director American Museum of Natural History, New York City: "The Education of the People in Fishery Matters."

Charles W. Burnham, U. S. Bureau of Fisheries, Washington, D. C.: "Notes on the Collection and Transportation of an Exhibit of Bermuda Fishes."

Professor Bashford Dean, Columbia University, New York City: "Announcement of Dr. Nishikawa's Success in causing the Pearl Oyster to secrete Perfect and Spherical Pearls."

S. W. Downing, Superintendent U. S. Fisheries Station, Put-in-Bay, Ohio: "Some of the Difficulties encountered in collecting Pike Perch Eggs."

Dr. B. W. Evermann, Chief of Division of Scientific Inquiry, U. S. Bureau of Fisheries, Washington, D. C.: "The Alaska Fisheries Service," "A Pair of Fur Seal Pups in Domestication."

A. Kelly Evans, Commissioner of Game and Fisheries, Ontario, Canada: "The Practical Enforcement of Fishery Regulations."

Professor Irving A. Field, Western Maryland College, Westminster, Md.: "The Utilization of Sea Mussels for Food."

R. E. Follett, Vice-president and General Manager New England Forest, Fish and Game Association, Boston, Mass.: "Moving Pictures with lecture on Conservation of Forest Life."

Professor S. A. Forbes, Director State Laboratory of Natural History, Urbana, Ill.: "A Program for the Investigation of a River System in the Interest of Fisheries."

Samuel F. Fullerton, St. Paul, Minn.: "The Fish Culturists' Opportunity."

Dr. Theodore Gill, Smithsonian Institution, Washington, D. C.: "The Natural History of the Weakfish."

Ferdinand Hansen, President Russian Caviar Co., New York City: "On the Introduction of the European Sturgeon."

Professor Francis H. Herrick, Western Reserve University, Cleveland, Ohio: "Protecting the Lobster."

Dr. F. M. Johnson, Boston, Mass.: "*Salvelinus fontinalis* of the Sea."

President David Starr Jordan, Stanford University, Palo Alto, Cal.: "International Regulations and what they mean."

John L. Leary, Superintendent U. S. Fisheries Station, San Marcos, Texas: "The Sunfish."

Dr. M. C. Marsh, U. S. Bureau of Fisheries, Washington, D. C.: "Thyroid Tumors in Salmonoids."

W. E. Meehan, Commissioner of Fisheries of Pennsylvania, Harrisburg, Pa.: "Observations on the Small-mouthed Black Bass during the Spawning Season of 1910," "The Work of the Department of Fisheries of Pennsylvania in the Prevention of Stream Pollution."

James Nevin, Superintendent Wisconsin Fish Commission, Madison, Wis.: "Reminiscences of Forty-one Years' Work in Fish Culture."

Professor Raymond C. Osburn, Columbia University, Assistant Director New York Aquarium: "The Effects of Exposure of the Gill Filaments of Fishes."

H. Wheeler Perce, President National Association Scientific Angling Clubs: "Some General Remarks on Fishing for Sport."

W. H. Safford, Superintendent Crawford Hatchery, Conneaut Lake, Pa.: "Observations on Frog Culture."

Wm. P. Seal, Delair, N. J.: "The Future of the American Fisheries Society."

Dr. F. B. Sumner, Director U. S. Bureau of Fisheries Laboratory, Woods Hole, Mass.: "Adaptive Changes of Color among Fishes" (illustrated).

W. T. Thompson, U. S. Fisheries Station, Leadville, Col.: "Is Irrigation a Menace to Trout Culture."

John W. Titecomb, Commissioner of Fisheries of Vermont, Lyndonville, Vt.: "On the Scientific Feeding of Fishes."

Dr. Charles H. Townsend, Director New York Aquarium, Acting Director American Museum of Natural History, New York City: "The Conservation of our Rivers and Lakes."

Professor H. B. Ward, University of Illinois, Urbana, Illinois: "Animal Parasites and Parasitic Diseases of Fresh-water Fish in the United States."

S. G. Worth, Superintendent U. S. Fisheries Station, Mammoth Springs, Ark.: "Atlantic River

Sturgeon in Economic Relation to Flies and Live-stock," "Observations on the Natural Food of Small-mouthed Bass Fry at Mammoth Springs Station, Arkansas."

The following members have also indicated that they will present papers, but the titles have not been received:

Frank N. Clark, Superintendent U. S. Fisheries Station, Northville, Mich.

Professor T. L. Hankinson, Zoologist, Charleston, Ill.

R. S. Johnson, Chief of Division of Fish Culture, U. S. Bureau of Fisheries, Washington, D. C.

C. D. Joslyn, President State Board Fish Commissioners, Detroit, Mich.

Dwight Lydell, Michigan Fish Commission, Comstock Park, Mich.

Professor E. E. Prince, Dominion Commissioner of Fisheries, Ottawa, Canada.

A. Rosenberg, Kalamazoo, Mich.

A special anniversary program will be in readiness for distribution at the meeting. Members are requested to send to the chairman as soon as possible, the titles of all additional papers which should be included in the program, and to correct such errors as may be found in this announcement.

C. H. TOWNSEND, *Chairman*,

W. E. MEEHAN,

FRANK N. CLARK,

HUGH M. SMITH,

GEORGE P. SLADE,

RAYMOND C. OSBURN,

Special Anniversary Committee

SCIENTIFIC NOTES AND NEWS

PROFESSOR JOSEPH A. HOLMES, of the U. S. Geological Survey, formerly professor of geology and natural history at the University of North Carolina and state geologist, has been appointed by President Taft director of the newly-established Bureau of Mines.

At the second Congress of Anatomists held at Brussels last month, papers were presented by Professor C. S. Minot, on "The Nomenclature and Morphology of Blood Cells"; by Professor G. S. Huntington and Professor F. W. McClure, on "The Development of the Lymphatic System"; by Professor Thomas G. Lee, on "The Implantation of the Ovum in

Rodents," and by Professor G. C. Huber, on "Renal Tubules in Mammals."

DR. WILLIAM OSLER, regius professor of medicine in Oxford University, England, is visiting this country.

CAPTAIN SCOTT and the members of the Antarctic expedition were entertained at Cape Town on August 21 at a banquet. Mr. S. S. Hough, the astronomer royal at the Cape, and Sir J. Rose-Innes proposed the principal toasts.

MR. F. E. MATTHES has been detailed by the U. S. Geological Survey this summer to make surveys for a detailed topographic map of the Mount Rainier National Park in the state of Washington. Mr. Matthes hopes, among other things, to make an accurate determination of the altitude of Mt. Rainier that will settle once and for all the dispute as to whether that peak is the highest point within the United States or not.

PROFESSOR GEORGE W. PATTERSON, of the electrical engineering department of the University of Michigan, Ann Arbor, Mich., is now in Europe on a year's leave of absence.

CHARLES W. HILL, who received his degree of doctor of philosophy at the University of Wisconsin this spring, has been made research chemist for the National Carbon Company at Cleveland, O.

MR. ANTONIO GUELL, research fellow in the engineering experiment station of the University of Illinois, having received the degree of electrical engineer from that institution, has entered the employ of the General Electric Company at Lynn, Mass.

MRS. MARGARET E. GRAY provides \$50,000 for the New York Academy of Medicine to establish the Landon Carter Gray Memorial Fund for the library in memory of her husband, who died about ten years ago.

The Scientific American states that a movement has been started having for its object a memorial to Robert Davidson, of Aberdeen, Scotland, who in 1839 exhibited over a large part of Great Britain a model electric railway,