

horizons, and undoubtedly owes its origin to forces operative at the time of deposition. The coarse breccia, on the other hand, is developed without regard to the limits of the layer and has a patchy, horizontal distribution. In one of the quarries in St. Louis County, Missouri, layers superjacent to a mass of coarsely brecciated limestone are bent down in such a way as to reveal the former presence of a limestone cavern. This structure in connection with other features led to the conclusion that the breccia is due to the collapse of the partially dissolved layers and of the cavern roof, and that the coarse breccia in western Illinois may have originated in a like manner.

Combination of Structures in the Colmar Oil Field in Western Illinois: WILLIAM C. MORSE.

In the Colmar Oil Field in western Illinois the Hoing sand is productive at 80 to 100 feet above sea level in the Lamoine terrace and at 165 feet in the adjacent Colmar dome. Salt water backs up the oil to the very edge of the terrace and, in fact, fills the lower part of the sand in the terrace itself. It likewise backs up the oil to the very crest of the dome. In some of the non-productive walls the sand is not present. From these facts it is evident that the sand in the terrace and in the dome constitutes two entirely separate patches; and recent development proves that the distribution of the oil and the salt water is dependent upon the structure of each individual patch of sand. In other words, the distribution of the oil and the salt water is not the result of the larger structure alone, but particularly that part of the larger structure within the limits of each sand patch. For example, the distribution of the oil in this area of elevated rocks is confined to the highest part of one patch of sand (terrace) and to the highest part of the other patch (dome).

Some Structural Geology of the Piedmont: JOHN E. SMITH.

The rocks under discussion are located in the "Slate and Schist Belt" in the eastern part of the Piedmont in North Carolina. A deep layer of mantle rock permits but few outcrops where unweathered material may be obtained for study. The sedimentary rocks consist of conglomerates, "slates," and breccias, each of which in places has been silicified. The gneisses and schists are derived from igneous and sedimentary rocks. These "Ancient Crystallines" are intensely folded, have steep dip with axes extending northeast and southwest in Orange County, are much reduced by erosion, and in many places have been

cut by igneous intrusions and extrusions. The igneous rocks consist of granites, syenites and diorites, occurring as stocks some of which show zonation, and felsites, chiefly rhyolites, many of which have been sheared and altered. The rhyolites nearly all exhibit flow structure and appear prominently as rounded monadnocks and short ranges of low hills. The dikes are chiefly basic rocks. Contacts are rarely exposed. (Illustrated with structure sections.)

Geographic Causes in North Carolina: JOHN E. SMITH.

The natural divisions of North Carolina are the mountain region, the Piedmont plateau and the coastal plain. The climate varies with the elevation and with the distance from the sea, reaching its maximum range of temperature in the western part and the minimum along the coast. The rainfall is greatest in the southern part of the mountain region and near the sea. Some of the lake and swamp depressions of the coastal plain were formed by unequal deposition near the shore of a former sea and some by low barrier ridges built before the sea withdrew. The water in some of the lakes is partly of artesian origin. The railway systems are in topographic adjustment and there are two great power systems, one in the Piedmont and one on the coastal plain. The value of land is controlled by topography, fertility and accessibility, that of least value being the most remote in the mountains, the most rugged in the Piedmont, and the most swampy on the plain. Mills and factories are located chiefly in the Piedmont because those first built used water power. Hydro-electric is most popular now. Many of these industries came to the south to reduce expenses by operating in a mild winter climate near the raw materials used with cheap labor. The people of the state are distributed in accordance with the above-mentioned influences. (Illustrated with maps and charts.)

GEORGE F. KAY,
Secretary

SOCIETIES AND ACADEMIES
THE BIOLOGICAL SOCIETY OF WASHINGTON

THE 547th regular, and 36th annual meeting of the society was held in the Assembly Hall of the Cosmos Club, Saturday, December 18, 1915, called to order by President Bartsch, at 8 P.M., with 27 persons present.

On recommendation of the council the following persons were elected to active membership: H. R.

Rosen, U. S. National Museum; Miss Virginia Boone, U. S. National Museum; Ira N. Gabrielson, Biological Survey; James Silver.

Annual reports of officers and committees were submitted.

Election of officers for the year 1916 resulted as follows:

President, W. P. Hay.

Vice-presidents, J. N. Rose, A. D. Hopkins, Hugh M. Smith and Vernon Bailey.

Recording Secretary, M. W. Lyon, Jr.

Corresponding Secretary, W. L. McAtee.

Treasurer, W. W. Cooke.

Councillors, N. Hollister, J. W. Gidley, William Palmer, Alex. Wetmore, E. A. Mearns.

President Hay was elected a vice-president of the Washington Academy of Sciences.

The president announced the following committees:

Committee on Publications, N. Hollister, W. L. McAtee, W. W. Cooke.

Committee on Communications, Wm. Palmer, Alex. Wetmore, Lewis Radcliffe, J. W. Gidley, W. R. Maxon, H. S. Barber.

THE 548th meeting of the society was held in the Assembly Hall of the Cosmos Club on Saturday, January 15, 1916, called to order by President Hay at 8 P.M. with 40 persons present.

The president noted the recent death of F. M. Webster, long a member of the society.

Upon recommendation of the council the following were elected to active membership: H. F. Taylor, Bureau of Fisheries; Douglas C. Mabbott, Biological Survey; Wallace M. Yaters, Department of Agriculture.

Under the heading of Brief Notes and Exhibition of Specimens Mr. Wm. Palmer exhibited a specimen of seahorse which actually came from near Colonial Beach, Chesapeake Bay, but which had attained much newspaper notoriety as having been caught in the Tidal Basin, D. C. He also exhibited the collector's sketch of a pipefish which had been captured in the Tidal Basin.

The regular program was a communication by W. W. Cooke, "Notes on Labrador Birds." Mr. Cooke gave an interesting account of Mr. Clarence Birdseye's experiences and travels in Labrador during the past four years while engaged in farming silver gray foxes for their furs, describing the difficulties under which he labored and the disastrous effect of the European war on the fur market. The speaker then gave an historical survey of Labrador

ornithology from the early days of Cartwright to Mr. Birdseye's latest observations, which includes the extension of range of several species of birds. Mr. Cooke's communication was illustrated with lantern slide views of maps of Labrador, maps of migrations of certain birds, and views of several birds which had lately been observed for the first time in eastern Labrador. Mr. Birdseye's observation on Labrador birds will appear in full in the April *Auk*.

Mr. Cooke's communication was discussed by Mr. Wm. Palmer and by Mr. Alex. Wetmore.

THE 549th regular meeting of the society was held in the Assembly Hall of the Cosmos Club, Saturday, January 29, 1916, called to order at 8 P.M. by President Hay, with thirty persons present.

The recent and previously unnoticed deaths of members of the society, Dr. G. D. Elliot, A. M. Groves and C. E. Slocum were noted by the president. On recommendation of the council Dr. Walter K. Fisher, Stanford University, was elected to active membership.

Under the heading Brief Notes Dr. L. O. Howard told of some of the published anecdotes regarding the entomologist General Dejean who served under Napoleon I., and of his zeal as a collector even under the excitement of battle.

Under the same heading Dr. H. M. Smith called attention to the successful introduction of the tilefish into the markets, restaurants and homes of the United States.

Under the heading Exhibition of Specimens Dr. L. O. Howard exhibited a photographic lantern slide of Orsini's statue, *Proximus Tuus*, representing a malarial stricken Italian peasant. The statue was exhibited at the San Francisco fair and illustrations of it are used in a California antimosquito campaign. By way of contrast Dr. Howard showed a group of healthy children on the formerly malaria-infested Roman Campagna.

Under the same heading Mr. William Palmer exhibited several bones of extinct cetaceans recently collected by him at Chesapeake Beach, Maryland. He called attention to the work of Cope and of other paleontologists on this group and pointed out the relationships of the forms with some of the modern cetaceans.

The regular program comprised a paper by Ned Dearborn, "Fur Farming in Alaska." Dr. Dearborn pointed out the possibilities of fur farming in Alaska, stating that at present there are 75 localities in that territory where such farming is

carried on to a greater or less extent. The possible animals that may be bred for fur are the fox, mink, marten, otter and beaver, but so far it has only proved practicable with foxes and minks. Silver foxes are successfully bred in the interior and fed on salmon and rabbits to a large extent. Blue foxes are successfully raised along the coast, especially on certain of the islands. The paper was discussed by Dr. C. W. Stiles who called attention to the prevalence of certain forms of hookworms in the dogs and foxes of Europe and Alaska but seldom found in the dogs of the United States.

M. W. LYON, JR.,
Recording Secretary

THE BOTANICAL SOCIETY OF WASHINGTON

THE 110th regular meeting of the Botanical Society of Washington was held in the Assembly Hall of the Cosmos Club at 8 P.M., Tuesday, February 1, 1916. Fifty-three members and four guests were present. Messrs. Chas. H. Clark, Felix J. Schneiderhan, and Dr. T. Tanaka were elected to membership. The following papers were presented:

Egyptian Use of Date Tree Products Other than Fruit (with lantern): S. C. MASON.

To be published in full elsewhere.

Botanical and Economic Notes on the Dasheen (with lantern and exhibit): R. A. YOUNG.

The dasheens represent one type of the taro, which is well known in the Orient and the Islands of the Pacific. All belong to the genus *Colocasia*. The variety under special consideration was the one known as the "Trinidad" from the island of Trinidad. It is believed to have come originally from China. Slides were shown illustrating the differences in floral and other characters between two very distinct types of *Colocasia*, which for the past sixty years have been included under the name *C. antiquorum* (L.) Schott. One of the types, which includes the dasheen, was recognized tentatively by Schott, in 1823, as a good species, under the name *C. esculenta* (L.) Schott. In 1856 he reduced it to a varietal rank. The other type, which is represented by the "qolqas" or "colocasia" of Egypt, is the species *C. antiquorum*. It is contended that the reduction of *C. esculenta* to varietal rank was an error and it is proposed to restore it to specific rank. The true *C. antiquorum* properly includes the common elephant-ear plant, generally referred to as *Caladium esculentum*, of Ventenat.

The dasheen is gaining in importance in the far south, and a northern market is developing. Many culinary experiments have been made and a number of delicious and attractive dishes have resulted. After the program, dasheens which had been parboiled and baked with electric stoves, were served.

The Pathological Inspection Work of the Federal Horticultural Board: GEO. R. LYMAN.

The Plant Quarantine Law seeks to prevent the introduction into the United States of injurious plant diseases from abroad by requiring the inspection of imported plant material. The inspection of commercial importations presents few difficulties, inasmuch as the variety of host plants involved is not great and the importations are ordinarily from countries where the diseases are well known. But importations by the Department of Agriculture for experimental and introduction purposes present many problems, since they come from every quarter of the globe and are practically unlimited in variety of host plant. Both host and disease may be new and hence potentially dangerous. All such importations are received in a specially constructed inspection house in Washington, and the packages are opened in the presence of the inspectors, all wrappings being burned. The plant material is closely examined and suspicious specimens are referred to experts of the Department of Agriculture for study and determination. Extraordinary precautions are taken to prevent infection being carried on the hands or clothing of the inspectors.

After inspection the material may be (1) passed, if it is apparently clean; (2) burned, if dangerous diseases are found; (3) ordered fumigated or cleansed when the pests found can be eradicated by such treatment (facilities for treating material are present in the inspection room); or (4) ordered grown in quarantine. The quarantine greenhouse adjoining the inspection room is divided into small units where suspicious plants may be isolated and grown under close observation until the proper disposition of them is determined.

Moreover, much of the material which passes inspection is ordered grown in the propagation gardens of the government, one of which is situated at Yarrow, Maryland. Here the plants are propagated and grown under observation and are given a last close inspection when finally ready for distribution.

W. E. SAFFORD,
Corresponding Secretary