

secretary, Dr. Lorande Loss Woodruff, Yale University, New Haven, Conn. *Central Branch*, December 28-30. President, Professor E. A. Birge, University of Wisconsin; acting secretary, Professor Thomas G. Lee, University of Minnesota, Minneapolis, Minn.

The Entomological Society of America.—December 29, 30. President, Professor W. M. Wheeler, Harvard University; secretary, J. Chester Bradley, Cornell University, Ithaca, N. Y.

The Association of Economic Entomologists.—December 28, 29. President, Professor S. A. Forbes, University of Illinois; secretary, A. F. Burgess, Washington, D. C.

The Botanical Society of America.—December 29-31. President, Professor W. F. Ganong, Smith College, Northampton, Mass.; secretary, Professor D. S. Johnson, Johns Hopkins University, Baltimore, Md.

American Nature Study Society.—December 30, 31. President, Professor L. H. Bailey, Cornell University; secretary, Professor M. A. Bigelow, Teachers College, Columbia University, New York City.

Sullivant Moss Chapter.—President, Dr. T. C. Frye, Seattle, Wash.; secretary, Mr. N. L. T. Nelson, St. Louis, Mo. Address: Mrs. Annie Morrill Smith, 78 Orange St., Brooklyn, N. Y.

Wild Flower Preservation Society.—President, Professor Chas. E. Bessey; secretary, Dr. Charles Louis Pollard, New Brighton, N. Y.

The American Psychological Association.—December 29-31. President, Professor G. M. Stratton, University of California; secretary, Professor A. H. Pierce, Smith College, Northampton, Mass.

The American Philosophical Association.—December 29-31. President, Professor Hugo Münsterberg, Harvard University; secretary, Professor Frank Thilly, Cornell University, Ithaca, N. Y.

Southern Society for Philosophy and Psychology.—Convocation week. President, Professor J. MacBride Sterrett, The George Washington University; secretary, Professor Edward Franklin Buchner, The Johns Hopkins University, Baltimore, Md.

The American Anthropological Association.—December 28-January 2. President, Professor Franz Boas, Columbia University; secretary, Dr. Geo. Grant MacCurdy, Yale University, New Haven, Conn.

The American Folk-lore Society.—Week of December 28. President, Professor Roland B. Dixon, Harvard University; secretary, Dr. Alfred M. Tozzer, Harvard University, Cambridge, Mass.

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

THE 446th meeting was held October 17, 1908, with President Stejneger in the chair. A paper on "The Pear Thrips Problem in California" was read by Mr. A. L. Quaintance. The so-called pear thrips (*Euthrips pyri* Daniel) first came to notice in the spring of 1904 in the Santa Clara Valley in California. Since its first appearance, its injuries have constantly increased, and it has now spread to the principal deciduous-fruit growing regions in the San Francisco Bay region. The losses brought about by the pear thrips the past year have been perhaps not less than half a million dollars.

The insect was first investigated by Mr. Dudley Moulton, beginning in 1904, at that time Santa Clara County entomologist, and a fairly complete account of it was published in a bulletin from the office of the state commissioner of horticulture. The increased destructiveness of the thrips led to provision by congress for an investigation of the insect by the Bureau of Entomology, and Mr. Moulton, who in the meantime had been employed by the bureau, was assigned to the work beginning July 1, 1907, with headquarters at San José, Cal.

The pear thrips attacks various deciduous fruits, as almond, apricot, peach, prune, cherry, pear, apple, etc. The life history is briefly as follows: Early in the spring, as in late February or early March, the adult thrips begin to make their appearance from the soil, at once attacking the opening buds or blossoms, and by their feeding soon cause these to blight, literally nipping the fruit crop in the bud. Oviposition occurs soon after emergence, the eggs being placed in soft tissues, especially fruit and leaf stems or in the midribs of leaves. The young larvæ feed upon the tender tissues of the leaf or flower, requiring some three or four weeks to reach their full size. They then leave the plants and work their way below the soil from three to four or even ten to twelve inches, depending upon whether this is hard or soft, as resulting from frequent cultivations. In the soil, the thrips larvæ construct small oblong cells where they remain the balance of the season. In late fall and early winter, transformation to the pupa stage occurs, from which the adults develop, to appear above ground about the time fruit trees are beginning to bloom in the spring. There is thus but one generation each year, and the insect spends practically ten months in the ground.

The pear thrips has proved to be a very difficult insect to combat, and its practical control has not

yet been determined. The Bureau of Entomology is carrying out extensive experiments and demonstrations in spraying in the infested territory and also testing over large areas the possibility of destroying the larvæ or pupæ in the ground by cultivation or other methods of soil treatment. Of many sprays tested, a proprietary tobacco extract and a distillate emulsion have proved most efficient. Spraying must be directed largely against the larvæ feeding on the more exposed portions of the plant. Of the various fruits attacked, pears and prunes suffer worst, from the fact that the thrips are out in large numbers just when the buds of these fruits are beginning to swell, and these are promptly infested and destroyed, usually before the blossoms expand.

An abstract of a paper on "Recent Discoveries in the Natural History of Eels," by Dr. T. N. Gill, appeared in *SCIENCE* for December 11.

THE 447th meeting was held October 31, 1908, with President Stejneger in the chair. The evening was taken up with a discussion of the necessity for an immediate biological survey of the Isthmus of Panama, the following members taking part: The chair, Gill, Dall, Howard, Coville, Pittier, Nelson, Safford, C. D. Marsh, Bartsch and Schwartz. Insistence was made on the desirability of a survey, and since the fresh waters of the two sides of the isthmus will mingle within a year, permitting the mixture of forms from the two sides, a fresh-water survey should be begun immediately. The plan favored was that of united action on the part of the heads of governmental departments rather than dependence upon congress. The following resolution was adopted:

Realizing that the work on the Panama Canal is changing biological conditions in Panama and that the completion of the canal will enable the fresh-water faunas of the two slopes to mingle freely and that many marine animals will succeed in passing the completed canal, the Biological Society of Washington urges upon the government of the United States to make provision for a biological survey of the Isthmus of Panama.

Since the conditions will be permanently changed as soon as the canal is completed and the work can not be satisfactorily done after the completion of the canal, there is great urgency that provision for the work be made at once. Therefore be it

Resolved, That copies of this resolution, signed by the president of the society and the recording secretary, be sent to the president of the United States, the heads of the several departments con-

cerned and the secretary of the Smithsonian Institution.

THE 448th meeting was held November 14, 1908, with President Stejneger in the chair. Dr. Hugh M. Smith exhibited a series of colored lantern slides of living fishes photographed in the wild state and in aquaria by the well-known photographer, Mr. A. Radclyffe Dugmore.

Mr. Henry Oldys presented a paper entitled "Some Deductions from the Nesting of Birds," in which he called attention to the identity of construction of the nests of closely related birds in widely separated parts of the world. Thus the American robin (*Merula migratoria*), the European blackbird (*Merula merula*) and *Merula mandarina* of China all use mud in the composition of their structures; the American kinglets and the European goldcrest build suspended nests stuccoed with lichens; and the Caprimulgidæ of America, Europe and Australia construct no nests, but lay their eggs on the bare ground. These are merely random examples; many others might be cited, such as titmice, wrens, doves, etc. The components of these different groups of birds must have been separated for thousands of years, and the fact of this resemblance of their nests indicates how little they have departed from the habits of their common ancestor. This seems on its face a strong justification of the inference that nest-building is instinctive. But various instances are recorded of radical departure from the type. The American herring gull (*Larus argentatus smithsonianus*), when the usual flimsy nests of seaweeds carelessly thrown together on the beach were persistently robbed by fishermen, abandoned their custom of ages and built substantial structures in trees forty or fifty feet from the ground; and the herons near Redwood City, Cal., from a similar cause deserted their rookery with its nests in eucalyptus trees and built on the ground far out in the marsh. Other instances of radical departure from custom were instanced by Mr. Oldys, who deduced from these examples that since birds can change their architectural customs when necessity arises, we must attribute their adherence to the ancestral type of nest to conservatism rather than the mechanical operation of instinct, and hence conclude that the building of a nest is an intelligent action. In support of this contention Mr. Oldys adverted to like adherence to architectural forms on the part of man, particularly shown by less developed types. The round huts of African savages, the wigwams of Indians, and

various other examples were enumerated by the speaker as evidence that man's house building runs also in architectural grooves. Lower types of man are less capable of invention and innovation than those of greater development; and as birds are still lower in the scale, the persistence of avian architectural types for ages is not incompatible with the idea that birds' labors are not automatic, but are governed by intelligence.

Mr. Wells W. Cooke read the third paper of the program, on "The Earliest Migration Records in the United States." This will be published in *The Auk*.

M. C. MARSH,
Recording Secretary

THE PHILOSOPHICAL SOCIETY OF WASHINGTON

THE 654th meeting of the society was held on November 7, 1908, Secretary Burgess presiding. The following papers were read:

An Electrical Resistance Method for the Rapid Determination of Moisture in Grain: Dr. L. J. BRIGGS.

The speaker briefly reviewed the lack of uniformity in grain grading due to the moisture content of the grain, and the effect of moisture upon the method of grain shipment. The methods heretofore used in ascertaining moisture content of grain were briefly described and the importance of a rapid method was pointed out. The speaker had recently applied the electric resistance method to the problem. It was found that the same specific resistance gave the same per cent. of moisture within a limit of error of 0.3 per cent. A curve was exhibited showing the relation of the percentage of moisture content to the logarithm of the electric resistance. The results showed three noteworthy things: (1) all the varieties of wheat tested in the investigation gave about the same amount of moisture for the same specific resistance; (2) the high temperature coefficient; (3) the relation of moisture content to the logarithm of the resistance.

By this method the moisture content can be ascertained in about one half hour, whereas by the methods heretofore usually employed three days were required.

The paper was published in the issue of *SCIENCE* for December 4.

Some New Measurements with the Gas Thermometer: Dr. A. L. DAY.

This paper will be found published in full in the *American Journal of Science* for November, 1908.

R. L. FARIS,
Secretary

THE AMERICAN CHEMICAL SOCIETY NORTHEASTERN SECTION

THE eighty-seventh regular meeting of the Northeastern Section of the American Chemical Society was held on Friday, November 20, 1908, at the Technology Union, Boston. Reports of the treasurer and secretary for the year just closed showed the section to be in prosperous condition. The annual election was held and the following officers chosen for next year:

President—G. N. Lewis.

Vice-president—Franklin C. Robinson.

Secretary—Kenneth L. Mark.

Treasurer—Hermann C. Lythgoe.

Councilors—J. F. Norris, W. H. Walker, L. A. Olney.

Executive Committee—S. W. Wilder, Karl Langenbeck, W. L. Jennings, F. E. Gallagher, A. G. Woodman.

Professor Henry Fay, of the Massachusetts Institute of Technology, addressed the section upon "The Effect of Manganese Sulphide upon Steel," having particular reference to the failure of steel rails. The appearance and properties of manganese sulphide in steel were discussed and it was shown that under certain conditions this substance may cause dangerous weakening of the finished rail. The relation of this material to fractures which had occurred in rails in use was clearly shown by an interesting set of lantern-slide photographs. The properties of manganese sulphide were studied and its melting point found to be 1,162° C., and its specific gravity after fusion, 3.966. It was suggested that in consequence of the difference of its specific gravity, and that of steel, better separation of the sulphide may be obtained by keeping the melted metal in the ladle for a longer time after adding the ferromanganese, and before pouring the ingot.

Professor Franklin C. Robinson, of Bowdoin College, addressed the section upon "Some Chemical Facts and Fancies." The speaker related numerous personal experiences as an expert on the witness stand, and advanced certain views as to the proper attitude of the expert in court trials, particularly in criminal cases. He especially deprecated the theatrical or pompous attitude, sometimes assumed by the expert, and asserted that usually a better impression is made upon the court and the jury if the witness keeps himself somewhat in the background.

FRANK H. THORP,
Secretary