

Arthur W. Dean, Boston, Mass.; Dean Roland P. Davis, College of Engineering, West Virginia University; T. Keith Legaré, Columbia, S. C., and Thomas E. Stanton, Jr., Sacramento, Calif.

Medals will be presented for distinguished work in the field of civil engineering as follows:

Dr. Arthur Newell Talbot, professor emeritus of engineering at the University of Illinois, the John Fritz Medal.

Dr. Daniel W. Mead, of Madison, Wis., the Norman Medal, for a report on the St. Lawrence water-power development.

Wilbur M. Wilson, research professor at the University

of Illinois, the J. James R. Croes Prize, for the second best report.

A. V. Karpov, of the Aluminum Company of America, Pittsburgh, and R. L. Templin, chief test engineer of the same company, the Thomas Fitch Rowland Prize, for a report on construction work.

Paul Baumann, chief engineer of the Los Angeles County Flood Control district, the James Laurie Prize, for a report on sheetpile bulkheads.

Clinton Morse, of Balboa Heights, Canal Zone, the Collingwood Prize, for a report on engineering work.

Honorary membership will be conferred on Alex Dow, of Detroit; G. H. Duggen, of Montreal; Robert Hoffmann, of Cleveland; J. B. Lippincott, of Los Angeles, and J. A. L. Waddell, of New York.

## SCIENTIFIC NOTES AND NEWS

FOLLOWING the Harvard Tercenary the French Government conferred membership in the Legion of Honor with the rank of commander on President James Bryant Conant. Professor George D. Birkhoff, Professor Julian L. Coolidge, Professor James B. Munn and Jerome D. Green, director of the tercentenary, have been promoted from the rank of chevalier to that of officer of the legion. The rank of chevalier has been conferred on Professors Bliss Perry, Edward B. Hill, Edward W. Forbes, Roger Bigelow Merriman, Ralph Barton Perry, Edward A. Whitney, Kenneth J. Conant and George Harold Edgell.

DR. CUSTIS LEE HALL, assistant professor of orthopedic surgery in the George Washington University School of Medicine, Washington, D. C., was presented on January 4 with the first Citizens' Service Award for 1936. The cup, which will be awarded annually to the citizen who is considered to have rendered the most unselfish service to the whole community, is provided by the *Washington Times*; the recipient is selected by a representative citizens' committee. Dr. Hall was chosen for his work among crippled children and adults.

THE \$1,000 prize and bronze medal of Eli Lilly and Company was presented on December 29 at the Indianapolis meeting of the Society of American Bacteriologists to Dr. Harry Eagle, of the Johns Hopkins Hospital, for research on immunity to various diseases, notably syphilis. The prize is awarded by a committee of the Society of American Bacteriologists, the American Association of Immunologists and the American Society for Experimental Pathology.

DR. LEROY M. S. MINER, dean of the Harvard Dental School and president of the American Dental Association, received a medallion "in recognition of outstanding service of benefit to dentistry during the past year" at the annual convention of the dental

fraternity, Alpha Omega, held in Boston from December 29 to 31.

GEORGE DAVID OBERLE has been awarded the annual research prize of the Kansas State College Chapter of the Society of Sigma Xi for his work on "The Influence of Leaf to Fruit Ratios on the Photosynthetic Activity of York and Livland Apple Leaves." This prize is awarded annually by the society to a graduate student at Kansas State College who makes the most significant scientific contribution during the year.

THE Melchett Medal of the Institute of Fuel, London, has been awarded to Dr. Franz Fischer, director of the Kaiser Wilhelm Institute for Coal Research.

JAMES G. K. MCCLURE, JR., of Asheville, N. C., has been elected president of the American Forestry Association, succeeding Dr. Henry S. Graves, dean of the Yale Forest School and formerly chief of the Forest Service, who retired on December 31. At the same time the association announced the election of four new directors: Karl T. Frederick, of New York, president of the New York State Conservation Council, to serve for five years; Joseph H. Pratt, of Washington, D. C., formerly president of the Southern Forestry Congress, to serve for two years; Wilbur K. Thomas, of Philadelphia, executive secretary of the Carl Schurz Memorial Foundation, to serve for two years; and Wallace W. Atwood, president of Clark University and formerly president of the National Parks Association, to serve for one year. Dr. Graves was elected to serve as a director for a period of five years, and Dr. John C. Merriam, president of the Carnegie Institution of Washington, was reelected to serve for a five-year period.

DR. RAYMOND W. WAGGONER, associate professor of neurology at the University of Michigan Medical School, who was recently made director of the State Psychopathic Hospital, has been promoted to a pro-

fessorship and has been made director of the department of psychiatry.

A SHELDON traveling fellowship in geology has been awarded by Harvard University to Fred B. Phleger, Jr., of Glendale, Calif., a graduate of the University of Southern California and of the California Institute of Technology.

THE departments of botany of Cornell University and of the Ohio State University have arranged an exchange of instructors for the spring term of the current academic year. Dr. E. M. Palmquist, of Cornell University, and Dr. C. E. Taft, of the Ohio State University, have been selected for the exchange. Both instructors will be engaged in the teaching of general botany in the large elementary courses.

DR. LAWRENCE GAHAGAN has resigned from an assistant professorship of psychology in the University of California at Los Angeles in order to take up the study of medicine.

DR. LANCELOT HOGGEN, professor of social biology in the University of London, has been appointed Regius professor of natural history in the University of Aberdeen in place of Professor James Ritchie, who has resigned.

DR. JOHN ALFRED RYLE, Regius professor of physics in the University of Cambridge, has been elected to a professorial fellowship at Gonville and Caius College.

DR. WILLIAM BOWIE, chief of the division of geodesy of the U. S. Coast and Geodetic Survey, who will be sixty-five years old next May, has retired. He joined the survey in 1895 as a field engineer.

DR. ALONZO E. TAYLOR, director of the Food Research Institute at Stanford University since 1921, has been appointed chairman of the research committee of General Mills, Inc., Minneapolis.

DR. MORLEY A. JULL, head of the poultry department of the University of Maryland, has been elected secretary of the Industry Committee of the seventh triennial World's Poultry Congress, that will be held for the first time in the United States in 1939.

PRESIDENT ROOSEVELT sent to the Senate on January 11 the nomination of Charles Edison, of New Jersey, son of Thomas A. Edison, to be Assistant Secretary of the Navy.

FRANK A. ARNOLD has been appointed managing director of the Technical Press of the RCA Institutes, Inc. He will direct the publication of the *RCA Review*, a quarterly journal of radio progress.

DR. JOHN H. GEROULD, who is on leave of absence from Dartmouth College, will be at the Imperial College of Tropical Agriculture, Trinidad, from February 7 until April 15, 1937.

LLEWELYN WILLIAMS, assistant curator of economic botany at the Field Museum, Chicago, left early in January on an expedition of several months in southern Mexico to obtain general botanical collections for the museum. The expedition was made possible through cooperation extended by F. J. Riker, president of Maderas Tropicales, South America, a division of the Ozark Corporation, Detroit. Work will be concentrated on the Isthmus of Tehuantepec, especially in the region of Minatitlan, in the state of Vera Cruz.

SIR HUBERT WILKINS, the Arctic explorer, returned to England, after visiting the United States, on January 3. He hopes to raise £10,000 there to complete the sum needed to construct the submarine in which he intends to cross the Arctic under the ice. He has already received the sum of £25,000 towards the cost.

MISS L. E. CHEESMAN has returned to England after a year's absence, during which she made a collecting expedition to Dutch New Guinea to obtain specimens for a research into the insect fauna of the Cyclops Mountains and to collect scientific material for the British Museum of Natural History.

THE Gehrman lectures of the College of Medicine of the University of Illinois will be delivered on January 25, 26 and 27 by Dr. Thomas Parran, Surgeon General, U. S. Public Health Service. The subjects of the individual lectures are: "Health as a Factor in Social Security," "Industrial Hygiene" and "Syphilis."

DR. ELMER V. MCCOLLUM, professor and head of the department of biochemistry at the Johns Hopkins University School of Hygiene and Public Health, will deliver at Detroit on February 15 and 16 the annual Beaumont Lectures of the Wayne County Medical Society. His subject is "Recent Advances in the Field of Nutritional Research."

THE address at the fall initiation meeting of the Ohio State University Chapter of the Society of the Sigma Xi was on December 7 delivered by Dr. Laurence H. Snyder, professor of zoology. His subject was "Questions and Answers."

THE two hundred and twelfth regular meeting of the American Physical Society will be held on Friday and Saturday, February 19 and 20, at Chapel Hill and Durham, N. C., in affiliation with the Southeastern Section of the American Physical Society and the American Association of Physics Teachers. Other meetings for the current season are as follows: Washington, D. C., April 29 to May 1; Pacific Coast, time and place not yet decided; Madison, Wis., June 22 and 23.

AN International Congress on Hepatic Insufficiency and Liver Diseases is to be held at Vichy, France, on

September 16, 17 and 18. Dr. Anthony Bassler is the chairman of the American committee of the congress. The American group will present papers on "The Relation of Hepatic Insufficiency to General Nutrition and Especially to the Nervous System." Those taking part are Dr. Anthony Bassler, New York; Dr. Hyman I. Goldstein, Camden, N. J.; Dr. Andrew C. Ivy, professor of physiology and pharmacology, Northwestern University Medical School; Dr. Lathan A. Crandall, Jr., Chicago, and Dr. Norman W. Elton, Reading, Pa. This congress will follow the second International Congress on Gastroenterology, which meets at Paris on September 13, 14 and 15.

A UNITED PRESS dispatch from Moscow reports that three hundred and sixty-nine foreign geologists, representing forty-six countries, have signified a desire to participate in the International Congress of Geology to be held in Moscow this summer. Most of the participants—one hundred and thirty-six—will go from the United States. The desire to attend was reported also by thirty-three English, twenty-six French, twenty German and sixteen Spanish geologists and by a number of geologists from Italy, Switzerland and other countries. It is reported that the program will include a hundred and fifty papers by foreigners and about two hundred and fifty papers by Russian geologists.

THE fourth International Grassland Congress will be held in Great Britain in July under the presidency of Professor R. G. Stapledon, director of the Welsh Plant Breeding Station and the Imperial Bureau for Herbage Plants, Aberystwyth. Delegates will attend from Great Britain, the British Dominions and Colonies, the United States and numerous other countries. The paper-reading sessions will be held in Aberystwyth from July 13 to 19, but participants will be able to join in a tour of centers of grassland interest and selected farms both before and after these sessions. Delegates will be able to choose one of a number of options to take part in the whole congress or certain sections of it. Special addresses will be given on certain evenings at Oxford, Cirencester, Aberystwyth and Newcastle. The paper-reading sessions to be held in Aberystwyth will be divided into three plenary and two sectionalized sessions. The latter will deal with numerous aspects of the grassland problem, including ecology, pasture and range management, seed mixtures, plant breeding, genetics and seed production, manures and fertilizers, nutritive value of pastures, fodder conservation and grassland economics.

THE first International Conference on Fever Therapy will be held at Columbia University College of Physicians and Surgeons, New York, from March 29 to 31. The program is divided into four parts

with committees in charge as follows: physiology, pathology and methods of production of fever, Drs. Frank W. Hartman, Detroit, *chairman*, and Charles A. Doan, Columbus, Ohio, *secretary of the committee*; miscellaneous diseases treated by fever therapy, Drs. Clarence A. Neymann, Chicago, *chairman*, and Frank H. Krusen, Rochester, Minn., *secretary*; syphilis, Drs. Walter M. Simpson, Dayton, Ohio, *chairman*, and Leland E. Hinsie, New York, *secretary*; gonorrhea, Drs. Stafford L. Warren, *chairman*, and Charles M. Carpenter, *secretary*, Rochester, N. Y.

AN exhibit from the Carnegie Institution of Washington was opened at the Museum of Science and Industry, New York City, on the evening of January 14, with a preview for trustees of the museum, scientific men, engineers and other invited guests. The exhibition shows among other things research in the exploration of the earth's high atmosphere with radio waves; the present-day Maya Indians of Yucatan; pinocytosis, the drinking of fluids by cells; the march of forests in response to changing climate; new factors in animal metabolism, the formation of copper ores, etc. There will be moving exhibits, motion pictures, lectures, transparencies, etc.

THE Museum of Natural History of Syracuse University, containing large and valuable scientific collections, was destroyed by fire which swept the top floor of Lyman Hall, housing the university's natural science laboratories, on January 1. The damage is estimated at \$450,000. The fire first was observed in the office of Dr. Ernest Reed, head of the department of botany, who is in Venezuela on a scientific expedition. In the museum were specimens of the university's first Andean expedition, including stuffed animals, rocks and geological specimens; collections from Venezuelan expeditions; fifty or more rare plants as yet unidentified; a collection of Mayan and Aztec idols; the university collection of African mammal horns, valued at \$2,000, a recent purchase; a collection of minerals, valued at \$20,000; complete "file" of mounted birds of this locality; a set of miniature African mammals from the American Museum of Natural History; a collection of carved pieces of South Sea Island ivory; taxidermy equipment, microscopes and stereopticon slides; letter and manuscript files; a collection of shells; an "almost priceless" collection of first editions describing the natural history of New York State; three large skeletons of extinct reptiles.

AT the annual meeting held at Atlantic City on December 30, 1936, the Genetics Society of America passed the following resolution: "The Genetics Society of America records its regret that it appears impossible to hold the meeting of the Seventh International Congress of Genetics in the summer of 1937 as

planned; and in view of the importance of maintaining friendly contact among the geneticists of all countries through regular international congresses it urges

that the International Committee arrange for holding the Seventh International Congress at the earliest practicable time."

## DISCUSSION

### THE SAN DIEGAN ALLIGATOR LIZARD AND THE BLACK WIDOW SPIDER

TOWARD the end of 1935, or early in 1936, local newspapers carried several accounts of a contemplated introduction of *Bufo marinus* to California, to act as a biological control of the black widow spider, *Latrodectus mactans*. That such an attempt might actually be made seems possible, owing to the scare notices which periodically appear in California, claiming that this dangerous spider is on the increase.

While considering the feasibility of introducing this toad and the dangers attendant upon such a procedure, it seems proper to visualize it and its manners of attacking a spider. To one knowing something of the habits of the black widow, such a contemplation conjures up a picture of a robust toad squeezing into cracks under boards and stones, crawling up the studing in garages and homes, clambering into dense shrubs and hedges, leaping nimbly into the air to pick the spiders from the center of their webs, and in other ways behaving in a manner not at all compatible with bufonid temperaments and capabilities. The few spiders found wandering about on the grounds and accessible to the toads would be so small in number as to form only an inconsiderable percentage of the whole population.

After giving some study to the problem of a possible native predator it appeared highly probable that the habits of the San Diegan alligator lizard, *Gerrhonotus multicarinatus webbii*, in southern California, and other subspecies elsewhere in the state, would bring this reptile into close contact with the spiders. This lizard, on close study, also appeared to be the only animal with a habitat approximating that of the black widow.

It was hoped that a study of stomach content might furnish evidence in support of the theory that the lizard is an important predator on the spiders, but it is obvious that only by very remote chance would one find even the chelicerae in the digestive tract of the lizard. Adult spiders, in spite of all the alarms, are too scarce to form an important element in the diet of *Gerrhonotus*.

Although studies in food habits carried on with captive specimens are, or should be, considered subject to serious questioning (as witness our desert tortoise,

*Gopherus agassizii*, eating cheese, apples, bananas and lettuce in captivity), in this case, the method appeared our only hope of obtaining any light on the problems under scrutiny.

Although more work on this problem will be undertaken during the coming year, it is not believed that anything but confirmation of our initial results will be forthcoming. In the early attempts, it was found that the female spiders of any size were eagerly consumed by *Gerrhonotus*, and that all healthy and active specimens fed readily. This, in itself, might not be significant, but in view of the repeatedly observed response of the lizard to the egg sacs of the spider, it is believed that this lizard may be the chief vertebrate enemy of the black widow. Every egg sac, whether containing eggs or young, when placed in the lizard's cage, was consumed. The lizard often showed an almost immediate response to the presence of such an inanimate object and would swallow the entire sac as well as the contents. Such behavior is particularly significant to any one who is familiar with these lizards, since they will be aware that this species is ordinarily responsive only to moving objects and that this feeding habit is therefore particularly significant. After conducting the feeding experiments with *Gerrhonotus*, a specimen of *Sceloporus occidentalis biseriatus* was given an opportunity to feed, and the spider was taken with great readiness. It is probable that many other species of lizards would likewise do so, but it is highly improbable that any of them would be as important an enemy of the spider as *Gerrhonotus*, owing to the fact that none of them fits as neatly into the requisite habitat. It is only a remote chance that our other species of lizards would figure as controls of the black widow.

As has been previously stated, it is commonly reported that the black widow spider is on the increase in southern California, and there has been much informal discussion of the subject. That there has been a total increase is entirely probable, since every new building, at least those erected in open country, should furnish more sanctuary than would the same area without a house. Most of the claimants for the increasing abundance theory seem to believe that there has been not only a general increase, but an actual increase in the density of the population within the habitat as well as in total numbers.