

SCIENCE

VOL. LVII JUNE 29, 1923 No. 1487

<i>Ancient Fauna of Mongolia discovered by the Third Asiatic Expedition of the American Museum of Natural History: DR. HENRY FAIRFIELD OSBORN.....</i>	729
<i>Some Experimental Studies on the Central Nervous System: DR. H. S. BURR.....</i>	732
<i>The Maskell Collection of Coccidae: PROFESSOR ALEX. D. MACGILLIVRAY.....</i>	734
Scientific Events:	
<i>Shad Investigation in America; Pasteur Celebration in France; In Honor of Professor Morse; The Directorship of the Mount Wilson Observatory</i>	735
<i>Scientific Notes and News</i>	737
<i>University and Educational Notes.....</i>	740
Discussion and Correspondence:	
<i>The Preparation of Five Kilograms of Desiccated Euglena: DR. CHARLES E. BILLS. Syrphid Larvae as Pests: DR. R. W. DOANE. On the Vitality of Cotton Seed: DR. G. F. LIPSCOMB, G. L. CORLEY. Misuse of the Word "Creation" by Naturalists: DR. C. HART MERRIAM.....</i>	740
<i>Standardized Nomenclature of Biological Stains: H. J. CONN.....</i>	743
Special Articles:	
<i>Reverse Mutation of the Bar Gene, Correlated with Crossing-over: DR. A. H. STURTEVANT AND PROFESSOR T. H. MORGAN. The Absolute Values of the Electrical Moments of Atoms and Molecules: DR. R. D. KLEEMAN. Simple Milk Formulae: DR. DAVID WILBUR HOEN. Concerning the Vitamin B Content of the Velvet Bean: DR. J. W. READ</i>	746
<i>The American Chemical Society: DR. CHARLES L. PARSONS</i>	750
<i>The American Geophysical Union and Its Sections: DR. WILLIAM BOWIE.....</i>	754
<i>Science News</i>	viii

ANCIENT FAUNA OF MONGOLIA DISCOVERED BY THE THIRD ASIATIC EXPEDITION OF THE AMERICAN MUSEUM OF NATURAL HISTORY¹

It is a very significant fact in the history of palaeontology that the homeland, or chief center of evolution or adaptive radiation, of the mammals during the Age of Mammals and of the reptiles during the Age of Reptiles is the very last to be explored. Beginning with the first palaeontological work toward the close of the eighteenth century in Europe, continuing with the thorough exploration of Europe and southern Asia during the nineteenth century and with the wonderful discoveries in reptilian and mammalian history in North and South America from the middle of the nineteenth century onward, the homeland was still left untouched, unexplored. Discoveries in North America were so extensive and so revolutionary that many thought the homeland had been revealed in our great western fossil beds. Positive claims were advanced by Ameghino for Patagonia as the homeland of proboscidea and primates. As a residuum of these discoveries in the western hemisphere, it proves true that several orders of mammals did originate in the Americas, but the ancestral stock from which these orders radiated was still to be found. Speculation wavered between the northern hemisphere and the southern hemisphere and some zoologists advocated both hemispheres in so-called bipolar theories. Thus sprang up two new branches of science—Paleogeography and Paleometeorology—centering in more or less inductive and deductive schools of thought.

In 1889 the New York Academy of Sciences adopted a new rule, namely, that its presidency should be held not for long terms but for two-year terms, and a new condition of the presidency was the preparation of a serious presi-

SCIENCE: A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS

100 Liberty St., Utica, N. Y. Garrison, N. Y.
New York City: Grand Central Terminal.

Annual Subscription, \$6.00. Single Copies, 15 Cts.
Entered as second-class matter January 21, 1922, at the Post Office at Utica, N. Y., Under the Act of March 3, 1879.

¹ Address to the New York Academy of Sciences at a special meeting May 21, 1923.

erations. Long but concise carefully prepared descriptions covering all parts are given. These are amplified by the numerous figures of the insects as a whole and of their various parts in great detail. The figures of a species are grouped together and printed as text-figures. While it is always of importance to have a figure near the description for comparison, yet the effect and detail of figures printed upon plate-paper is so much better than those printed on ordinary print-paper that convenience should have been overlooked, particularly in a work of such value to future students of the Coccidæ as this one. Figures where one half shows the dorsal surface and the other half the ventral surface are being produced by many authors. This is to be deplored because such figures never give the perspective of the insect as a whole that can be secured from complete figures of each surface while there is always confusion and doubt as to the accuracy of the structures located on and near the meson, and so long as the government is financing the project, the question of expense should not be a serious one. This is particularly unfortunate in figures of the anal ring, a structure that is going to be used much more in the future than in the past, especially in the subfamily Eriococcinæ and its allies. The figures showing the anal ring are all on too small a scale or very indifferently done and do not bring out their pertinent characteristics. An admirable feature of this contribution is the attention given to other individuals than the adult female, the first nymphal stage and the adult male where available being described.

This is one of the very best studies of the Coccidæ made by an American in many years, regardless of my criticisms, and the authors are to be congratulated on starting this series of studies with such a thoroughgoing piece of work. It is to be hoped that they will follow the policy of Maskell and publish at least one large contribution each year until the study is completed. If our National Museum is to retain its supremacy so far as the Coccidæ are concerned it must be by contributions to their study and not by number of insects in cases.

ALEX. D. MACGILLIVRAY
UNIVERSITY OF ILLINOIS

SCIENTIFIC EVENTS

SHAD INVESTIGATIONS IN CONNECTICUT

AN investigation of the cause of the marked depletion of the Connecticut River shad is being undertaken by the Connecticut State Board of Fisheries and Game. The commercial catch of shad has decreased alarmingly since 1919. The number of eggs obtained for artificial propagation has also decreased during recent years. The work now in progress includes: (1) Experimentation with methods of catching shad for spawn taking, (2) a study of the feeding habits, periods of migration and other phases of the life history of the shad, (3) studies of the enemies of larval and young shad, of parasitism and of other phases of pathology, (4) a detailed study of ecological conditions, including pollution, of the tributaries of the Connecticut in which shad are known to spawn, and (5) tagging of adult shad in an attempt to follow successive migrations. Another experiment is designed to test the possibility of furnishing comparative security to young shad by retaining a part of the product of the hatchery in specially prepared ponds freed from other fish.

The staff engaged in this work includes: Mr. J. W. Titcomb, superintendent of the fisheries and game of Connecticut; Dr. P. H. Mitchell, of Brown University, director of the investigations; Dr. Emmeline Moore, who is enabled to undertake this work through the courtesy and cooperation of the New York State Conservation Commission of which she is biologist; Dr. J. E. Blair, of Leland Stanford University; Mr. H. E. Gallup and Mr. F. B. Littlefield, of Harvard Medical School.

The Connecticut legislature has appropriated \$10,000 for this work. The investigations will be continued through the summers of 1923 and 1924.

PASTEUR CELEBRATIONS IN FRANCE

THE official French celebration of the centenary of Pasteur began in Paris on May 24. According to an article in the *British Medical Journal* many delegates from universities and institutions throughout the world attended a reception given by the president of the French Republic. On the following morning the delegates were welcomed by Dr. Roux at the Pas-

teur Institute; a bust of Pasteur erected in the gardens of the institute was unveiled and wreaths laid at its foot by foreign delegates, who afterwards visited the museum and the crypt, where is the tomb of Pasteur. Later in the day there was a great meeting in the amphitheater of the Sorbonne, presided over by the president of the republic, who was accompanied by the ministers, by members of the diplomatic corps, by members of the five academies of the Institut de France and the Académie de Médecine and by foreign delegates to the number, it is said, of some seven hundred. The proceedings began with the unveiling by M. Paul Appell, Rector of the University of Paris, of a marble tablet placed by the university in the Salle des Autorités, bearing an inscription stating that it has been erected on the spot where "le grand Français et le grand Anglais Lister se sont embrassés" to commemorate "cette étroite fraternelle, symbole de l'amitié de deux peuples." Afterwards the Marquess of Crewe, British ambassador in Paris, expressed the deep appreciation of this homage to Lister paid in the heart of the intellect of France. The popular celebration took place on Sunday, which was a flag day in Paris and the chief towns of France, and badges were sold for the benefit of the laboratories of France. In the afternoon the delegates attended a reception given by the City of Paris at the Hôtel de Ville. On Monday a visit was paid to Versailles, when a bust of Pasteur given by his daughter and son-in-law, Mme. and M. Vallery-Radot, was unveiled in the Galerie de Glaces. The president of the Republic during the previous week started on a tour, during the course of which he took part in celebrations at Arbois and Strasbourg.

IN HONOR OF PROFESSOR MORSE

FROM an article in the *Boston Transcript* we learn that to celebrate the eighty-fifth birthday of Professor Edward S. Morse of Salem, twenty members of the Boston Malacological Club visited him in his laboratory at the Peabody Museum in Salem, on June 18, to congratulate him and wish him years of useful work in the future. The visitors were headed by President Arthur F. Gray, of Watertown, who at an appropriate moment presented Dr.

Morse with a silver pitcher and tray, the former suitably inscribed, giving at the same time a short review of some of Professor Morse's special researches. "Since 1856 this active scientific man has been busy with many lines of scientific and artistic work, never forgetting his first deep interest, the shells of which he described a new species while merely a boy. His splendid labors in Japan, where he was one of the famous group of teachers who laid the firm foundations of education in that country, were touched upon with a sketch of the later researches largely in connection with the Peabody Academy in Salem."

Following a basket luncheon, the company adjourned to the home of Professor Morse, where the afternoon was spent in looking over his treasures, including two splendid decorations from the emperor of Japan, autographed volumes, models of the skull of early man, shell studies and a host of special items. Not the least interesting feature was a stroll with Professor Morse through the Weld Hall of Japanese curiosities, where he gave the company special descriptions of many of the things there shown, noting in places how they had been secured.

Present in the company were three of the original nature class given in Salem in the year following the celebrated start of the idea by Professor Agassiz, namely, J. H. Blake, student under Agassiz and artist for his expeditions; James H. Emerton, authority on spiders, and Arthur F. Gray, who acquired collections and books of Binney, a great conchologist of Massachusetts.

THE DIRECTORSHIP OF THE MOUNT WILSON OBSERVATORY

BECAUSE of persistent ill health, which has greatly reduced his working capacity during the last fifteen years and repeatedly threatened the necessity of complete retirement, Dr. George Ellery Hale has felt compelled to request of the Carnegie Institution of Washington a material reduction of his responsibilities as director of the Mount Wilson Observatory. On the recommendation of President Merriam, the executive committee of the institution has adopted a resolution appointing Dr. Hale honorary director of the Mount Wilson Observatory, with

the understanding that he will remain in charge of its general policy and continue to give special attention to the development of new methods and the attack upon new problems. On July 1, when the new arrangement goes into effect, Dr. Walter Sidney Adams, who has had long and successful experience as assistant director of the observatory and also as acting director during Dr. Hale's absence, will become director of the observatory in charge of operations. Dr. Hale's purpose in requesting relief is to find a means of accomplishing in the future the greatest possible amount of scientific work that his health will permit. He is still in Europe, but hopes to be able to return to Pasadena in October.

SCIENTIFIC NOTES AND NEWS

At a meeting of the council of the University of Strasbourg held on May 24, the honorary degree of doctor of the University of Strasbourg was conferred upon Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research.

At the commencement exercises of Yale University the doctorate of science was conferred on Dr. Walter B. Cannon, professor of physiology in the Harvard Medical School; Dr. Jacques Loeb, of the Rockefeller Institute for Medical Research; Dr. Henry F. Osborn, president of the American Museum of Natural History; the degree of master of arts was awarded to Joseph H. Pratt, state geologist of North Carolina.

PRINCETON UNIVERSITY has conferred the doctorate of science on Dr. Theodore William Richards, Erving professor of chemistry and director of the Wolcott Gibbs Memorial Laboratory at Harvard University; and on General John Joseph Carty, of New York City, chief engineer and vice-president of the American Telephone and Telegraph Company.

At Harvard University, the doctorate of laws was conferred on Dr. Samuel W. Stratton, president of the Massachusetts Institute of Technology.

At the commencement of Wesleyan University the doctorate of laws was conferred on Dr. James Rowland Angell, president of Yale

University, and the doctorate of science on Dr. Robert M. Yerkes, of the National Research Council.

DR. A. H. GILL, professor of technical chemical analysis at the Massachusetts Institute of Technology, received the honorary degree of doctor of science from the Rhode Island State College at its thirtieth annual commencement. The degree of master of science was conferred on Robert H. Smith, assistant professor of machine construction at the institute.

DR. H. A. LORENTZ, professor of physics in the University of Leyden, who has been lecturing in England, was the guest of the Anglo-Batavian Society at a dinner given in London on June 6. Following the speech of Professor Lorentz, responses for other guests were made by Lord Haldane and Professor G. N. Lewis, of the University of California.

SIR WILLIAM BRAGG has been elected to be Fullerian professor of chemistry at the Royal Institution and director of the laboratory and of the Davy Faraday Research Laboratory, in succession to Sir James Dewar.

DR. D. ROBERTS HARPER 3d, physicist of the National Bureau of Standards, has been detailed to New York for service as liaison officer between the Bureau of Standards and the American Engineering Standards Committee in the Engineering Societies Building, succeeding Dr. A. S. McAllister, of the Bureau of Standards, recalled from New York to Washington. Dr. McAllister takes charge of part of Secretary Hoover's special work in relation to commodity standards and specifications, inaugurated recently under the Bureau of Standards.

THE department of entomology of the University of California, and the staff of the museum of the California Academy of Sciences gave a complimentary dinner at the Hotel Stewart, San Francisco, on June 2, to Professor and Mrs. T. D. A. Cockerell, who were passing through San Francisco on their way to Siberia. Thirty-six were at the table, including many of the leading biological workers of the Bay Region of California. Dr. Barton W. Evermann acted as toastmaster. All present joined in wishing their guests a pleasant voyage and abundant success in their quest for fossil insects.