

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
GEOLOGICAL JOURNAL CLUB.

THE club during the last month has devoted much of its time to the reviewing of standard papers on ore deposits, for the benefit of students interested in economic geology. These articles were reviewed by L. T. Buell, C. H. Clapp, M. Rubel, G. G. Wald, A. H. Allen, W. G. Ball and B. L. Johnson. The other articles reviewed were:

B. L. Johnson, 'Native Gold Original in Some Metamorphic Gneisses' (*Eng. and Min. Jour.*, February 4, 1904); S. Shapira, 'Mining in Korea' (*Eng. and Min. Jour.*, March 3, 1904); W. L. Whittemore, 'Origin, Properties and Uses of Shale' (*The Michigan Miner*, November, 1899, to February, 1900); J. G. Barry, 'Controlling Sand Dunes in the United States and Europe' (*Jour. of Geog.*, March, 1904); E. Burton, 'The Glacial Geology of Tasmania' (*Quart. Jour. of the Geol. Soc.*, February, 1904); H. W. Shimer, 'Evolution of the Mosasaurs' (*Jour. Geol.*, February, 1904); C. E. Danforth, 'The American Mining Engineer' (*Eng. and Min. Jour.*, February 25, 1904).

Dr. D. W. Johnson spoke on 'A Problem in River-Capture.' His paper dealt with the present and former courses of the Tennessee River, and showed evidence for and against the present theory of its capture as proposed by Hayes and Campbell. Dr. Johnson is now in the field, making further investigation in this problem.

G. F. LOUGHLIN,  
*Secretary.*

THE OHIO STATE ACADEMY OF SCIENCE.

THE thirteenth annual meeting was held at Denison University, Granville, November 27, with about thirty members in attendance.

In the course of the year the academy has published, in addition to its 'Annual Report,' three 'Special Papers': No. 5, 'Tabanidæ of Ohio, with a Catalogue and Bibliography of the Species from America North of Mexico,' 63 pages, by James S. Hine; No. 6, 'The Birds of Ohio, A Revised Catalogue,' with copious notes, 241 pages, by Lynds Jones; No. 7, 'Ecological Study of Big Spring Prairie,' 96 pages, by Thomas A. Bonser. The studies

upon which these papers were based were largely carried on by aid from the Emerson McMillin Research Fund, and the expense of publication was mainly met by the further aid of the same fund. The series of special papers and the annual reports will be continued, but hereafter the *Ohio Naturalist* will be the official organ of the academy and in it will be published the abstracts and papers of less than 1,500 words.

The officers chosen for the ensuing year are:

*President*—E. L. Moseley.

*Vice-Presidents*—Lynds Jones and L. H. McFadden.

*Secretary*—F. L. Landacre.

*Treasurer*—Herbert Osborn.

*Members of the Executive Committee*—W. E. Wells and W. F. Mercer.

*Member of Publication Committee*—James S. Hine.

*Trustee*—W. R. Lazenby.

*Librarian*—W. C. Mills.

Correspondence regarding publications may be addressed to W. C. Mills, Page Hall, Ohio State University, Columbus, O.

The address of the president, C. J. Herrick, was on 'The Doctrine of Nerve Components and Some of its Applications.'

The following papers were read:

EDWARD L. RICE: 'Preliminary Report on the Development of the Gill in *Mytilus*.'

CHARLES S. MEAD: 'Comparative Chart of the Vertebrate Skull.'

F. L. LANDACRE: 'The Protozoa of Sandusky Bay.'

F. L. LANDACRE: 'A New Peritrichous Infusorian.'

MAX MORSE: 'Report on the Reptiles and Batrachians of Ohio.'

L. B. WALTON: 'Cataloguing Museum Collections.'

L. B. WALTON: 'A Practical Dissecting Tray.'

HERBERT OSBORN: 'A Further Contribution to the Hemipterous Fauna of Ohio.'

J. G. SANDERS: 'Report on the Scale Insects of Ohio.'

CHAS. S. MEAD: 'Report on the Orthoptera of Ohio.'

JAMES S. HINE: 'A Supplement to the Odonata of Ohio.'

A. F. BURGESS: 'Notes on the Introduction of the Chinese Ladybird, *Chilocorus similis*, in Ohio.'

HERBERT OSBORN: 'Notes on a Macropterous *Phylloscelis atra*.'

MAX MORSE: 'The Breeding Habits of the Myriopod, *Fontaria Indianae* Boll.'

EDWARD L. RICE: 'A Statistical Plea for Nature Study.'

LEWIS G. WESTGATE: 'Shore Line Topography between Toledo and Huron, Ohio' (lantern slides).

J. H. TODD: 'Some Rare Forms of Aboriginal Implements.'

EDO. CLAASSEN: 'List of the Mosses of Cuyahoga County and of Several Other Counties of Northern Ohio.'

J. H. SCHAFFNER: 'Extra-Floral Nectaries and Other Glands.'

JOHN H. SCHAFFNER: 'Notes on Nutating Plants.'

OTTO E. JENNINGS: 'Notes on Some Rare and Interesting Ohio Plants.'

WM. R. LAZENBY: 'The Keeping Qualities of Apples.'

WM. R. LAZENBY: 'Seeds of Celastraceæ.'

L. B. WALTON: 'Variation and Environment.'

W. A. KELLERMAN: 'Further Floristic Studies in West Virginia.'

W. A. KELLERMAN: 'Additional Infection Experiments with Species of Rusts.'

W. A. KELLERMAN: 'Mycological Flora of Cedar Point, Sandusky, Ohio' (abstract).

W. A. KELLERMAN: 'Group Names in Natural History.'

W. A. KELLERMAN: 'Historical Account of Uredineous Culture Experiments, with List of Species' (abstract).

W. A. KELLERMAN and O. E. JENNINGS: 'Annual Report on the State Herbarium.'

E. L. MOSELEY,  
Secretary.

#### DISCUSSION AND CORRESPONDENCE.

##### 'HORSES' NOT HORSES.

THE notice by E. C. Case of 'The Tree Dwellers' exposes a truly remarkable view of nature and the relations of 'horses' of the present epoch to animals of the past. That picture of 'tiny little creatures' with 'five toes on each foot' flying from dinosaurs and escaping by climbing trees involves as grotesque confusion of time, place and adaptation of structure as could well be conceived. But the critic has not shown up one of the most misleading characteristics. The author, after asserting that 'long before the tree-

dwellers lived there were wild horses' which were 'tiny little creatures,' naïvely adds, 'Perhaps you would not think that they were horses at all!' If 'you' did not think so 'you' would be perfectly right and any one who thinks otherwise perfectly wrong. The use of the word horse in such an enlarged sense has been to some extent encouraged by those who know better, but it is extremely deceptive. I have asked a dozen persons of more than average intelligence and culture (school teachers and college graduates) what idea they derived from the paragraphs in question, and found that those who had no special knowledge of zoology were entirely misled; they imagined an animal like an ordinary horse (more like a horse than a zebra or an ass is like a horse), differing simply in having five toes besides stripes like a zebra. Now, every instructed zoologist would know that such a characteristic as five (or four) toes must necessarily be coordinate with innumerable modifications of other parts and that, consequently, an animal so endowed must differ vastly more from a horse than an ass or a zebra does. In fact, every student of recent mammals would place the extinct beast in an entirely different family from the horse.

But no ungulate in the line of the horses with five toes has been discovered! The nearest approach to it is the *Hyracotherium* or *Eohippus* of the lower Eocene and that type had only four front toes and three hind ones; its jaws were relatively short, its teeth quite different from a horse's, and, in fine, its associated characters compel zoologists to differentiate it as the representative of a peculiar family—the Hyracotheriids. In an article (Horse) by a special student of the subject (Dr. William D. Matthews), just published in the *Encyclopedia Americana*, it is aptly stated that the 'first ancestor of the horse line is very difficult to distinguish from the contemporary ancestors of tapirs and rhinoceroses.'

Furthermore, I object to the assumption that the early representatives of the equine phylum were striped like a zebra. The only basis for such an assumption is that most of