

to computations for excavations and embankments of railroads and canals, and the method of using the prismoidal formula by means of corrections applied to the volumes as determined from average end areas is developed at length. It is to be regretted that the author uses the Latin word formulæ instead of the English word formulas.

M. M.

SCIENTIFIC JOURNALS.

Botanical Gazette, October: Mr. J. H. Schaffner, in a paper on 'Karyokinesis in the root tips of *Allium Cepa*,' states that he finds the root tips of *Allium Cepa* very valuable objects for the study of nuclear division. The details he illustrates upon two handsome plates, because, he says, "accounts and figures of karyokinesis in plant cells are very scarce, and the so-called diagrammatic or schematic figures and descriptions given in most text-books are but a poor guide for the student and young investigator." A student of Mr. Schaffner's, Mr. Edward L. Fulmer, writes on the 'Cell division in pine seedlings,' illustrating the process by two plates. Mrs. Fannie D. Bergen continues, in two installments, her list of 'Popular American Plant Names.' These papers are reprinted from the *Journal of American Folk Lore*. Dr. Byron D. Halsted has a short discussion of the newer aspects of botany, especially the ecological ones. The paper summarizes some remarks before the National Educational Association at Washington. Dr. C. F. Millspaugh contributes 'Notes and new species of the genus *Euphorbia*,' illustrated by his admirable figures. A biography of Joseph F. Joor, with portrait, and a short sketch of the DeCandolle family are written respectively by Mr. J. B. S. Norton, of the Missouri Botanical Garden, and Dr. G. E. Stone, of the Massachusetts Agricultural College. Mr. Clarence J. Elmore has studied the question of polyembryony in certain wild species of *Allium*. He finds the contents of the embryo sac exceedingly variable, the frequent absence of antipodals being especially noteworthy. In Open Letters, Dr. Robinson disavows responsibility for 'The American Botanist,' which was dated without authorization from the Gray herbarium; and Mr. Cockerell has a short letter on the nomenclature of *Eschscholtzia Mexicana*

and *Philibertia heterophylla*. Reviews are given of Barnes's 'Plant Life,' Britton and Brown's 'Illustrated Flora,' volume three; 'The Ninth Report of the Missouri Botanical Garden'; part two of Durand and Schinz's 'Flora of Africa,' Courchet's 'Text-book of Botany,' and Schneider's 'Guide to the Study of Lichens.' Twelve pages of Minor Notices of books and papers, Notes for Students, and News complete an unusually varied number.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON—295TH REGULAR MEETING, SATURDAY, OCT. 22.

DR. T. S. PALMER mentioned the reported occurrence in Patagonia of a living representative of the extinct *Mylodons*.

Mr. G. H. Hicks exhibited specimens of *Pinus torreyanus* and spoke of its extremely restricted distribution.

Dr. J. N. Rose presented a paper on his 'Proposed Arrangement of the subfamily Agaveæ,' stating that it was partly based on his four months' study of the group in its home in Mexico. The paper, which was illustrated by specimens, photographs and drawings, was particularly interesting from the fact that living types of all the genera were shown.

Mr. F. A. Lucas spoke on 'The Fossil Bison of North America, with description of a new species' for which the name *Bison occidentalis* was proposed. The horn cores of this species were of moderate size, although much larger than those of the existing species; their circumference at base was equal to, or slightly greater than, length along upper curve; they were sub-cylindrical in section and regularly curved upward and backward. The type from Fort Yukon was No. 4047 of the collections of the U. S. National Museum. The species was readily distinguished from *B. antiquus*, with which it had been confounded by the fact that in *antiquus* the horns stood at right angles to the longitudinal axis of the skull and were not directed backwards.

Mr. A. J. Pieters read a paper on 'Problems of Aquatic Vegetation,' stating that aquatic plants, especially the unicellular algæ, are the primary source of food supply in the lakes. The relation between the higher plants and the low