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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

ZOOLOGICAL GARDENS AND THE PRESERVATION OF FAUNA[1]

IN thinking over possible subjects for this presidential address, I was strongly tempted to enter on a discussion of the logical methods and concepts that we employ in zoology. The temptation was specially strong to a Scot speaking in Scotland, that he should devote the hour when the prestige of the presidential chair secured him attention, to putting his audience right on logic and metaphysics. But I reflected that zoology is doing very well, however its logic be wavering, and that as all lines subtend an equal angle at infinity, it would be of small moment if I were to postpone my remarks on metaphysics. And so I am to essay a more modest but a more urgent theme, and ask you to consider the danger that threatens the surviving land-fauna of this globe. A well-known example may serve to remind you how swift is the course of destruction. In 1867, when the British Association last met at Dundee, there were still millions of bison roaming over the prairies and forests of North America. In that year the building of the Union Pacific, the first great transcontinental railway, cut the herd in two. The southern division, consisting itself of several million individuals, was wiped out between 1871 and 1874, and the practical destruction of the northern herd was completed between 1880 and 1884. At present there are only two herds of wild bison in existence. In the Yellowstone Park only about twenty individuals remained in 1911, the greater part of the

[1] Address of the president of the Zoological Section of the British Association for the Advancement of Science. Dundee, 1912.

SCIENTIFIC JOURNALS AND ARTICLES

THE July number (volume 13, number 3) of the *Transactions of the American Mathematical Society* contains the following papers:

J. B. Shaw: "Quaternion developments with applications."

H. S. Vandiver: "Theory of finite algebras."

Dunham Jackson: "On the degree of convergence of the development of a continuous function according to Legendre's polynomials."

Louis Ingold: "Functional differential geometry."

E. B. Van Vleck: "On the extension of a theorem of Poincaré for difference equations."

E. B. Van Vleck: "One-parameter projective groups and the classification of collineations."

J. E. Rowe: "Bicombinants of the rational plane quartic and combinants of the rational plane quintic."

THE closing (July) number of volume 18 of the *Bulletin of the American Mathematical Society* contains: Report of the April meeting of the Society, by F. N. Cole; "Proof of a theorem due to Picard," by W. R. Longley; Review of Chwolson's Traité de Physique, by E. B. Wilson; "Arithmétique Générale," by E. Dumont and N. J. Lennes; Shorter Notices: Muir's Determinants, by G. A. Miller; Cohen's Lie Theory of One-Parameter Groups, by E. J. Wilczynski; Müller's Abriss der Algebra der Logik, by L. I. Neikirk; Andoyer's Cours d'Astronomie, by Kurt Laves; "Notes"; "New Publications"; List of papers read before the society and subsequently published; Index of Volume 18.

NOTES ON ENTOMOLOGY

SOME years ago Dr. Y. Sjöstedt made a collecting trip to the high mountains of East Africa. The results of nearly a year's collecting in that region were gradually published, and now have all been brought together in three volumes.[1] Dr. Sjöstedt collected over 50,000 specimens of insects, belonging to about 3,500 species, of which over 1,200 were new species. Many new genera and several new families have been erected upon this material, one of the richest insect collections ever brought from Africa.

A NEW entomological journal is the *Entomologische Mitteilungen* issued by the Deutsche Entomologische Museum, under the direction of Drs. S. Schenkling and C. Schaufuss. It is to be a monthly, and will contain papers on all orders of insects, but doubtless a majority will be on beetles. The first number contains a short history of the Deutsche Entomologische Museum, the only purely entomological museum in the world. With this new publication the museum abandons its previous quarto journal.

ONE of the results of the Belgian exploitation of the Congo was a Congo Museum, located near Brussels. This institution has now begun the issuance of a journal, *Revue Zoologique Africaine,* edited by the curator of the museum, Dr. H. Schouteden. It is to be issued irregularly; two fascicles have appeared, and are largely occupied with entomological articles treating all orders of insects.

DR. E. M. WALKER, who for some years has been studying the dragonflies of the genus *Æshna,* has now published his results.[2] It is a most painstaking and excellent work. There is a considerable amount of biologic information about these insects in the early part of the article, as well as figures of the characteristic parts of the nymphs. The author recognizes and gives complete descriptions of 16 species, most of which are confined to the northern parts of the United States and Canada. Several of the plates represent the markings of the body in color.

THE position of the flies of the family Phoridæ in the system of the Diptera has been a subject for discussion for many years. It has generally been considered as on the borderland between the two main divisions of the order, put sometimes on the one side, sometimes on the other. Now Dr. D. Keilin has

[1] "Wissenschaftliche Ergebnisse der Schwedischen Zoologischen Expedition nach dem Kilimandjaro, dem Meru, und dem umgebenden Massaisteppen Deutsch-Ostafrikas, 1905–1906, unter Leitung von Professor Dr. Yngve Sjöstedt," Stockholm, 1911, 4to.

[2] "The North American Dragonflies of the Genus *Æshna,*" Univ. of Toronto Studies, No. 11, pp. 213, 28 plates, 1912.