Obituary.

Lt.-Col. A. W. Alcock, C.I.E., F.R.S.

1859-1933.

THE sad and sudden death of Colonel A. W. Alcock will be deplored by his large circle of friends and admirers throughout India.

Alcock was educated at Millhill, Blackheath, and Westminster, and after graduating as a zoologist served for about two years as an Assistant Professor of Zoology in the University of Aberdeen under Professor H. A. Nicholson, F.R.S. He passed the competitive examination for the Indian Medical Service and served as a medical officer with the Punjab Frontier Force from 1886-88. He was then selected for the post of the Surgeon-Naturalist to the Marine Survey of India in 1889. In 1892 he served for a short period as the Deputy Sanitary Commissioner, Bengal. On the retirement of Mr. J. Wood-Mason, Superintendent of the Indian Museum, in 1893, he was appointed to succeed him and served in this capacity till his retirement in 1907. He also acted as the Professor of Zoology in the Medical College, Calcutta, during his tenure as the Superintendent of the Indian Museum. In 1895 he accompanied the Pamir Boundary Commission as a Naturalist. After his retirement from India he worked as a Lecturer in Medical Entomology in the London School of Tropical Medicine, and in 1919 was appointed the Professor of Medical Zoology in the University of London. He retired from the latter post in 1924.

Col. Alcock was a very distinguished zoologist and from 1890 to 1907 he published nearly 50 papers on Marine Zoology of India. His systematic papers include accounts of Anthozoa, Echinodermata, Brachiopoda, Mollusca, Crustacea and Fishes. Amongst these contributions those on deep-sea fishes and crustacea deserve special mention. The series of papers entitled "Materials for a Carcinological Fauna of India" published in the *Journal of the Asiatic Society of Bengal* from 1895-1900 and in which he critically treated most of the marine families of Brachyurous Crustacea, are a rich mine of information and are indispensable to every worker in Carcinology, and particularly to workers on Indo-Pacific forms. His Catalogues of Decapod Crustacea and deep-sea fishes in the Indian Museum similarly contain very comprehensive accounts of the rich crustacean and fish faunas of the Indian seas. In 1910 Col. Alcock published a valuable memoir on the Potamonidæ, or the freshwater crabs of India. In addition, he published a number of papers on such diverse subjects as Viviparous Fishes, on an Instance of Natural Effect of Warning Colours, on the Toxic Properties of Saliva in certain Colubrine Snakes, on a New Flying Lizard from Assam, and on a New Apodous Amphibian from India. His masterly memoir on the Classification of the Culicidæ with particular reference to the Constitution of the Genus Anopheles published in 1911 laid the foundation of our present knowledge of the subject, and about the same time he performed an even greater service to tropical zoology by the publication of his very lucid text-book entitled "Entomology for Medical Officers".

Col. Alcock's work as the Superintendent of the Indian Museum also has to be specially considered. Alcock was almost the first zoologist to carry out original zoological research of a high order in the Indian Museum, Calcutta, and under very difficult conditions he carried out reforms of an outstanding nature in the general management of this institution, while his work in connection with the preparation and arrangement of the exhibits in the various public galleries of the Museum was particularly valuable. To popularise the Museum and make it possible for the lay public to understand the exhibits in the Indian Museum Col. Alcock wrote a series of very interesting and handy guide-books of the various galleries under his charge. Reference may also be made to the popular account of his work as a Naturalist on R.I.M.S.S. "Investigator", published in that delightful work entitled "Naturalist in Indian Seas" in 1902.

Col. Alcock's work on Marine Zoology of India earned for him the Honorary degree of LL.D. from the University of Aberdeen in 1904, while he was elected a Fellow of the Royal Society of London in 1901. He was awarded the Barclay Memorial Medal by the Asiatic Society of Bengal in 1907. He was a corresponding member of the Zoological Society of London, and of the Netherlands Zoological Society, and an Honorary Member

of the California Academy of Sciences, Philadelphia. He was elected an Honorary Fellow of the Asiatic Society of Bengal in 1911 and his services in the Indian Museum were recognized in 1903 by the grant of the title of C.I.E. B. P.

Science News.

Aneuploidy in the genus "Cassia".—MR. R. M. DATTA, Department of Botany, Presidency College, Calcutta, writes:—Aneuploidy unlike polyploidy, is not a very common phenomenon in the Angiospermous plants, and only in a very few genera, such as *Datura*, *Œnothera*, *Triticum*, *Vicia* and others, has this been recorded. It appears that as far as the leguminous plants are concerned, aneuploidy has been reported only in the genus *Vicia*; but this phenomenon is also seen in the genus *Cassia* of the same family. Saxton found *n* 12 chromosomes in *Cassia tomentosa*; Tischler recorded the same haploid number for *Cassia fistula*. Muto obtained *n* 13 chromosomes in *Cassia occidentalis* while Sethi reported *n* 14 in *Cassia didymobotrya*. The present writer records *n* 13 for *Cassia tora* and recently Ghose and Alagh record *n* 10 in *Cassia purpurea*. Thus so far as this genus has been cytologically studied the *n* chromosomes appear to be 10, 12, 13 and 14, the common numbers of haploid chromosomes for the family Leguminosæ being 6, 7, 8, 10, 11, 12, 13, 14, 16 and 24.

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MR. P. M. GANGULI, Botanical Assistant, Assam Department of Agriculture, describes a method of crossing work in rice (*O. sativa*) in which he states nearly 90% success has been obtained. The process described by him is the same as that adopted by Sarangapani (1924) in the *Agricultural Journal of India*, with this difference, that instead of tying the glumes with fine silk, he has used rubber rings cut out of cycle valve tube to close the glumes which generally tend to remain open after emasculation.

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Sixteenth Session of the International Geological Congress:—The third circular for the sixteenth session of the International Geological Congress, which is to meet in Washington, U.S.A., from July 22 to 29, has been issued. It contains full information about meetings and about excursions, with costs. Before the Congress there are excursions to various parts of the Eastern United States, lasting from 4 to 12 days, and a transcontinental excursion eastward from San Francisco for those coming to the Congress from the West. For those arriving at New York too late to take part in these longer excursions there will be a number of short trips to nearby areas of geologic interest. Alternate days during the sessions of the Congress will be given to excursions to areas around Washington. After the sessions, there will be two longer transcontinental excursions, each lasting 31 days, and two shorter excursions, one for the study of the glacial geology of the Central States, the other for the study of the pre-Cambrian area, including the iron and copper deposits, of the Lake Superior region. In order to make these excursions generally available, it has been possible, through the generous assistance of the Geological Society of America, to offer the longer excursions at a considerable reduction below actual cost.

For special discussion at the scientific sessions in Washington the following topics are announced:

Measurement of geologic time by any method.
Batholiths and related intrusives.
Zonal relations of metalliferous deposits.
Major divisions of the Palæozoic era.
Geomorphogenic processes in arid regions and their resulting forms and products.
Fossil man and contemporary faunas.
Orogenesis.
Geology of petroleum.
Copper resources of the world.

Membership in the Congress is open to anyone interested. A copy of the third circular and other information can be had from W. C. Mendenhall, General Secretary, U. S. Geological Survey, Washington, D.C.

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At the Ordinary Monthly Meeting of the Asiatic Society of Bengal, held on Monday, the 1st May, 1933, Dr. S. L. Hora read a paper on Mud-fishing in Lower Bengal.†

With the change of seasons in India, the methods of fishing also change. During the rainy season, when the country is flooded, the waters run high in rivers and streams and stand deep in pools and ponds. At this time of the year the fish are rather difficult to catch, and cast-nets and other types of nets are used to collect them. With the beginning of the dry season, the waters begin to fall and the fishes are restricted more and more to shallow, confined waters, where they are liable to be easily netted or even caught by hand. The term mud-fishing is used in connection with several ingenious devices for catching fish in the dry season by hand in almost semi-liquid mud. In his paper the author has described four such methods of fishing and the kinds of fish and crustacea obtained by these methods are enumerated.

The biological significance of this study is that it reveals the great adaptability of several of our commoner species to highly adverse conditions of existence. There are two important ecological factors which an animal association living in pools and puddles in Lower Bengal has to contend with, namely, the variation in the salinity of water due to floods and evaporation: and secondly the rapidly decreasing quantity and final disappearance of water during the dry season, and the consequent lack of facilities for aquatic respiration. The present paper deals only with the methods of fishing, while biological notes on the catch are reserved for a subsequent communication.

Mr. M. S. Mani then showed an exhibit of a Gall-section showing Cyst Formation and spoke thus:—

"While investigating the response of the vegetable tissues to the stimulus from the gall-makers, it was observed that the stimulus was simultaneously of a mechanical, physical, and chemical nature. The response of the plant was found to be a kind of resistance to the changes brought

†The following is from the Society's Proceedings.