

honoured by the presence of the Raj Rana of Jhalawar, and was supported by Sir Norman Lockyer, Sir Charles Watson, Sir George Gibb, the Deputy-Master of Trinity House, the President of the Royal Meteorological Society, Captain Loring, R.N., Captain Sueter, R.N., Captain Clarke, Captain Thomson, C.B., Captain Lyons, R.E., Captain Henrici, R.E., and other representatives of various public offices.

The Raj Rana entertained the members of the Commission at dinner at Bailey's Hotel on Friday, September 20. Some of the delegates remaining in England were entertained for the week-end by Mr. and Mrs. Cave at Ditcham Park, Petersfield.

The reports of the proceedings at the meetings, which were read and signed at the final meetings on Friday, September 20, will now be printed and circulated to the various meteorological institutes for comments. These will be taken into consideration at the next meeting of the International Meteorological Committee, which, it is hoped, may be held in Rome in the week after Easter Week in the year 1913. The meeting will have to consider not only the reports of the Commissions which have already met, but also the important question of the application of meteorology to agriculture, which has been raised by a letter addressed to the president of the International Meteorological Committee by the president of the International Institute for Agriculture, which has its seat at Rome.

Besides the Commissions, the proceedings of which have been referred to here, it may be noted that the Commission for Radiation, under the presidency of Prof. J. Maurer, of Zürich, met in Switzerland in the first week of September; and, earlier in the year—May 27 to June 1—a largely attended meeting of the Commission for Scientific Aeronautics was held at Vienna, under the presidency of Prof. Hergesell. The Commission passed a number of resolutions, one of which, in favour of the establishment of a network of stations for daily observations with pilot balloons, has already been communicated to various Governments through diplomatic channels.

Perhaps the most noteworthy of the resolutions were those passed on the initiative of Prof. Bjerknes, formerly of Christiania, and now of Leipzig, proposing that the results of upper air observations shall be arranged according to definite steps of pressure instead of steps of height; that the heights shall be given in "dynamic" meters—that is, a step corresponding to a certain difference of gravity potential, not of geometrical height; and, thirdly, that pressures shall be recorded in millibars (C.G.S. units) instead of millimetres or inches. These important steps in the direction of arranging the material obtained from the investigation of the upper air in a form suitable for dynamical calculation are to come into effect with January, 1913, but the resolution as to pressure units is to be subject to the approval of the International Meteorological Committee. The forthcoming meeting proposed for Rome is therefore likely to be one of great importance.

NO. 2239, VOL. 90]

SCIENTIFIC COLLECTIONS OF THE
GERMAN CENTRAL AFRICA EXPEDITION
OF 1907-1908.¹

IN 1902 the Duke Adolf Friedrich visited East Africa. In 1904 he returned there and explored the region immediately to the south-east of Lake Victoria Nyanza. In 1907 he started again, this time at the head of a well-equipped scientific expedition charged with the special task of examining the volcanic regions west of the Victoria Nyanza and north of Tanganyika. The general results of this 1907-8 expedition have already been published, both in German and in English, the English version having been brought out by Cassell and Co. in 1910. The Duke, after leading his expedition through the countries of Karagwe, Ruanda (including the Kivu district), and the Virunga volcanoes, travelled past Lake Edward Nyanza to the Semliki, the Albert Nyanza, the gold-mines of Kilo, and then westwards through the Ituri Forest and down the Aruwimi to the main Congo, and so back to Germany by the Atlantic Ocean.

The volume before us is the third issued as the result of a careful examination of the immense collections made by this scientific expedition. The two previous volumes have dealt with the topography, geology, and meteorology, and with botany. Vol. iii. gives us, first, a remarkably interesting dissertation on the earth-worms or Oligochæta; on the Serphidæ, Cynipidæ, Chalcididæ, Evaniidæ, and Stephanidæ of hymenopterous insects; on the decapod crustaceans (the land-crabs, shrimps, prawns, &c.) of equatorial Africa; on the bees, the Cladocera, the molluscs (especially land-snails), the bivalves, the burrowing Hymenoptera, and wasps; the birds of the Central African lake region; the ants; the Braconidæ and beetles; the copepods of the East African lake region; the cockroaches and butterflies of Ruwenzori and the Congo Forest. The separate articles have evidently been inserted in the order in which they were written, and have thus been cited here. It would have been more convenient to the zoologist, however, if they had been arranged systematically, so that one passed on, for example, from bees and wasps to ants, or from one group of crustaceans to another, without some intervening description of a totally different group of animals.

Probably the most valuable part of the present compilation will be that on the earth-worms and the birds. Earth-worms—it has long been realised, even by those who do not specialise in any way in that study—are amongst the most interesting and certain means of estimating the relationship between the existing distribution of land and water on the earth's surface and that of past times. The article on the Oligochæta collected by the Adolf-Friedrich Scientific Expedition is accompanied by a well-written summary of the

¹ "Wissenschaftliche Ergebnisse der Deutschen Zentral-Afrika-Expedition, 1907-8," unter Führung Adolf Friedrichs, Herzogs zu Mecklenburg. Band iii., Zoologie i., herausgegeben von Dr. H. Schubotz. Pp. xxiii+56+plates xi-xiv. (Leipzig: Klinkhart and Biermann, 1912.) Price 24 marks.

distribution peculiarities of the earth-worms of Africa and adjoining regions, showing, amongst other things, the intimate faunistic relationships (involving, of course, continuous land surface at one time) between Spain, Syria, and Persia, and again between Sardinia, Sicily, and Tunis; between all equatorial or tropical Africa (Senegambia to Abyssinia and Mocambique), and—it might be added in a lesser degree—Guiana and Brazil; and the very separate and peculiar character, from an earth-worm point of view, of Madagascar and the southern extremity of Africa, both of which constitute very distinct regions in the character of their earth-worms. So far as our knowledge yet extends, the most interesting and richly endowed earth-worm region in Africa is round about Ruwenzori, between the west coast of Victoria Nyanza and the north coast of Tanganyika.

In the article on birds, the survey of all well-known collections is somewhat incomplete, very little reference being made to the reports on the collections made by the writer of this review in Uganda and on Ruwenzori. (In his general summary of the results of the expedition, the Duke Adolf Friedrich attributes the discovery of the Okapi, not to the writer of this review, but to Lieutenant Eriksson; the true facts of the case have been so well stated in M. Jules Fraipont's monograph on the Okapi that it is not necessary to repeat them here.) Several mistakes are made in the spelling of names of non-German authorities and certain place-names. This article, however, like some which have recently appeared in the *Ibis*, emphasises the remarkable beauty and strangeness in coloration of the Central African shrikes (*Malaconotus*) and the tree hoopoes (*Scopelus*). The most striking species of *Scopelus* has been named after the Duke Adolf Friedrich.

H. H. JOHNSTON.

NOTES.

SIR W. T. THISELTON-DYER, K.C.M.G., F.R.S., has been elected an honorary fellow of the Royal Society of South Africa.

A memorial to Lord Lister is to be established at University College Hospital, where Lister was a student. A special committee has been formed under the presidency of the Duke of Bedford, president of the hospital, with Sir John Tweedy, consulting ophthalmic surgeon, as hon. treasurer of the fund. The exact nature of the tribute will be largely decided by the amount of the subscriptions received, but it has been suggested that either a bust or a tablet should be placed in both the hospital and the college. It is understood that the memorial will be local in character, and only those who have been in some way connected with University College or the hospital are being asked to subscribe.

A NEW case has just been arranged in the Geological Department of the British Museum (Natural History) to illustrate the characteristic coral of each of the successive layers or zones in the Carboniferous Lime-

stone of the Avon Gorge, Bristol, as determined by Dr. Arthur Vaughan. The actual fossils and photographs of the cliff-sections are explained by accompanying diagrams, prepared by Mr. W. D. Lang. It appears that the successive faunas, including the corals, are not directly derived from each other on the spot, but represent a series of migrations. Dr. Vaughan has presented to the museum the whole of the collection of corals on which his well-known researches were based, and this gift has been supplemented by another from Dr. Albert Wilmore, illustrating similar researches undertaken by him in the Carboniferous Limestone of Yorkshire.

THE Geological Department of the British Museum (Natural History) has also recently received a valuable gift of Wealden fossils from the Revs. P. Teilhard and F. Pelletier, S.J., who made the collection during a four years' residence near Hastings. A large proportion of the specimens are small teeth from bone-beds which had previously been very little examined, and among them is the unique mammalian tooth described under the name of *Dipriodon valdensis* by Dr. Smith Woodward in 1911. There are numerous teeth of the dwarf crocodile *Theriosuchus*, which has hitherto been known only from the Purbeck Beds. The series of plant-remains is also important and will shortly be described by Prof. A. C. Seward in a communication to the Geological Society.

MR. WILLIAM H. HOGG having been appointed an inspector under the Board of Agriculture for Scotland, the post of resident manager of the Royal Agricultural Society's Experimental Farm at Woburn has become vacant. Applications for the appointment are to be made to the secretary of the society, at 16 Bedford Square, London, W.C., not later than Saturday, November 2.

PROF. KARL PEARSON has recently addressed two lectures to the medical profession. One, entitled "Eugenics and Public Health," was delivered at the York Congress of the Royal Sanitary Institute, and the other, "Darwinism, Medical Progress and Eugenics," before the West London Medico-Chirurgical Society as the "Cavendish Lecture." In both the importance of statistical training is insisted on in dealing with the data collected in the Public Health service, and also in deciding the method for their collection. Instances are given of the kind of errors which may be or have been made and can only be avoided by the application of the requisite knowledge and experience. The matter is one of urgent public importance, as social legislation of a kind that is difficult to repeal may be based on conclusions such as Prof. Pearson here criticises in his usual clear and forcible style.

A VOLUME entitled "Problems in Eugenics" (London: The Eugenics Education Society, 1912, pp. 490) contains the majority of the papers read before the recent International Congress in Eugenics, together with translations into English of those which were written in other languages. Such contributions as were sent in too late for inclusion in this volume are to be published in a supplement, which will con-