

sunspots of this order of size are very likely to be associated with geomagnetic storms beginning within the time-limits of two days before and four days after central meridian passage of the spot group. A severe geomagnetic storm did, in fact, occur, commencing abruptly on January 24 at 18h. 28m. U.T. The disturbance continued with even increased vigour to the night of January 25-26. Displays of the aurora were widely seen on both nights in Great Britain. Provisional overall ranges recorded at Abinger of the earth's magnetic elements (kindly communicated by the Astronomer Royal) are as follow:  $D$ ,  $1^{\circ} 29'$ ;  $H$ , 660  $\gamma$ ;  $V$ , 490  $\gamma$ . Long-distance radio-communication was seriously affected during the period of the geomagnetic storm.

Although a close connexion between the magnetic storm and the solar region containing this giant spot group can scarcely be doubted, there is little evidence at present for the occurrence of a brilliant solar flare some 24 hours before storm onset. Such a flare may have occurred, however, during the Greenwich night hours, and observations are being sought from observatories recording during 18h.-0h.-6h. U.T. either (a) direct solar observations; (b) radio anomalies that occur in the earth's day hemisphere when flares occur; or (c) a characteristic 'crochet' impulse on magnetograms that likewise betrays the occurrence of the more intense flares. Apart from this, there is increasing evidence that the stream of solar particles involved in the occurrence of a great magnetic storm is ejected at the time of an intense flare within the central region of the sun's disk.

#### Geological Survey in the British Commonwealth

IN an article in the *Petroleum Times* of January 1949, a "Petroleum Geologist" puts forward proposals for a British and Commonwealth plan for a modern geological survey. He lays emphasis on the fundamental importance of geological survey, and on the urgent need for an appraisal of the mineral resources of the Commonwealth. He recognizes that the development of the surveys depends on the expansion and training of staff and on the provision of specialist services in such fields as palaeontology, geophysics and air survey. The lay-out of the organisation which he advocates accepts the essential independence of the surveys of the several Dominions, but involves a closer relationship between the Geological Survey of Great Britain and the Colonial geological surveys; he proposes that these should be placed under a Minister (or his nominee) with an advisory board, and that specialist services should be joint. The comparison with the organisation of some oil companies is not helpful, however; both in Britain and in the Colonies, geological surveys have a much wider range of interest than an oil company, and procedures suitable for the rapid exploration of oil resources are not necessarily adaptable for a survey which, to be economical, must deal concurrently with many topics. Moreover, while it is true that greater freedom of interchange between Britain and the rest of the Commonwealth is valuable, the differences in the nature of the problems met with, and the importance of individuals with great local knowledge, limit the possibilities of useful interchange. We believe that the Geological Survey of Great Britain is itself as fully engaged on economic problems as "Petroleum Geologist" could desire, while the new organisation of the Colonial surveys promises important and rapid progress as men can be recruited.

#### Autumn Bird Migration in Britain

SEVERAL very interesting items occurred during the autumn of 1948 with bird movements in Britain. On August 21 and 22 an American greater yellow-shank (*Totanus melanoleucus*), the sixth British record, appeared at Ecton Sewage Farm, Northamptonshire, where a grey phalarope, the first county record since 1902, and an osprey appeared in September. On September 13 an American pectoral sandpiper (*Calidris melanotis*) appeared at Salthouse Marsh in Norfolk, another was reported from Sinderland, in Cheshire, on September 10, and a third at Thorney Island, Sussex, on October 3. On September 9 an immature cormorant (*Phalacrocorax carbo*) with four legs was obtained at Seaforth, Lancashire; later it died in Liverpool, but X-ray and other photographs were taken for the Merseyside Naturalists' Association. A grey phalarope also appeared at Worsley Sewage Farm, Lancashire, on September 5. On November 11 a little bunting (*Emberiza pusilla*) was added to the bird records of Cumberland by R. Stokoe, a careful observer, at a roadside pool at Siddick, near Workington. Whooper swans were on the same water, and earlier that month on Derwentwater. A gadwall was shot at Frodsham, Cheshire, early in December. Ringed bird returns have included this season a turnstone in Cheshire, marked by Stavanger ornithological station in Norway; and a Manx shearwater found at Leigh, Lancashire (an inland location), on September 5, was marked at the Skokholm colony, South Wales, as recently as August 28.

#### The Animal Health Trust

REVIEWING the ten-monthly period ending June 1948, the second report of the Animal Health Trust describes the completion of the requisition of land and buildings for the Trust's Canine Research Station at Newmarket and the Farm Livestock Research Station at St. Ives. At the former, research has been restricted to studies of a clinical nature including para-distemper, night blindness and Scotch cramp, while at the Poultry Research Station, established on the fifty-acre parkland adjoining Houghton Grange, St. Ives, diseases of the respiratory track have been the priority subjects of investigation. Progress has also been made in the investigations being carried out at the Equine Research Station at Balaton Lodge and Lanwades Park, Newmarket, into infertility, parasitology and diseases of foalhood. During the ten months, the Trust has granted a number of research fellowships to individual workers who wished to continue investigations of an independent nature, and helped some veterinary surgeons to go abroad to widen their experience. Six county committees of the Trust have been formed and eleven others are in the process of being established.

#### Zoological Society of Bengal: New Journal

ZOOLOGISTS will be interested in the appearance of vol. 1, No. 1 of the *Proceedings of the Zoological Society of Bengal* which, it is announced, will be published twice yearly and will contain the results of original research in the various branches of zoology. The first number (obtainable from the Society at 35 Ballygunge Circular Road, Calcutta; price 5 Rs. or 10s.) comprises 78 pages and 4 plates; and it contains eight papers covering a wide field, contributed mainly by the Department of Zoology of the University of Calcutta. S. P. R. Chaudhuri and I. Bose give an account of meiosis in diploid and tetraploid

spermatocytes of the grasshopper *Attractomorpha* sp., while meiosis and chiasma formation in another grasshopper, *Tristria pulvinata*, is the subject of a paper by M. K. Dutt. In a study of the scales in *Glossogobius giuris*, S. Mookerjee shows that the ctenoid condition is an advance on the cycloid which occurs earlier in development. The bionomics and reproduction of another fish, *Ophicephalus striatus*, are discussed by H. K. Mookerjee, D. N. Ganguly and R. N. Bhattacharya, and R. P. Dhar contributes a hæmatological note on a closely allied species. Some myxosporidians parasitic in fishes are described by M. Chakravarty and S. P. Basu. Termite control with various insecticides tried out in the field is the subject of an investigation by D. Mukerji and P. K. Mitra, and the final paper, concerning the development of the vertebral column in *Alligator mississippiensis*, is by H. K. Mookerjee and R. N. Bhattacharya. Text and figures are clearly printed on good art paper. 5/6

### Preslia: Botanical Research in Czechoslovakia

THE Czechoslovak Botanical Society has just published a comprehensive issue (vols. 22 and 23, pp. 248) of its proceedings, *Preslia*, for the years 1943-47. The periodical, named after the brothers J. S. and K. B. Presl, who flourished in the first half of the last century, had been an annual publication for some time before the War, but nevertheless served as a repository for the results of botanical research in Czechoslovakia. The Society now has an active membership of more than two hundred, besides that of some twenty-nine (pre-war, thirty-seven) affiliated societies and naturalists' clubs. During the period under review it was mainly through these that botanists were able to continue working and publishing. The current issue of *Preslia* lists these contributions for the years 1939 to 1947 as well as describing (in English and Czech) the recent history of some of the affiliated institutions. Some institutes are still not in working order. Dr. I. Klačteršký is held up with his work on the genus *Rosa*; Prof. J. Peklo lacks facilities for his phytopathological studies, and Prof. K. Domin cannot obtain the foreign literature he needs for comparative purposes. So far as botany is concerned, Slovakia appears to have suffered less than Bohemia, though Prof. B. Němec states that the Bratislava University Institute for Plant Physiology lacks microscopes and other equipment, and is without a proper library. A note in *Preslia* refers to the failure of the Botanical Society to obtain a grant from Unesco through the Association Internationale des Microbiologistes, and this is likely to delay further publication. In 1938 a group of botanists founded a journal, *Studia Botanica Cechoslovaca*. It survived until 1943, and hope is now expressed that it will resume publication under the editorship of Prof. S. Prát and Dr. I. Klačteršký. 6/2

### Toxicity of Certain Synthetic Organic Compounds to Insects

THIS subject is discussed in the *Canadian Journal of Research*, June 1948, in a paper divided into two parts. In Part 1 Messrs. A. W. A. Brown, D. B. W. Robinson, R. Hurtig and B. J. Werner record their results from testing the general toxicity of some 127 synthetic compounds when mixed in graded concentrations in the food of the larvæ of the housefly (*Musca domestica*), the confused flour beetle (*Tribolium confusum*), the Mediterranean flour moth (*Ephestia kuehniella*) and adults of the granary weevil (*Sitophilus*

*granaria*). Each compound was intimately mixed with the food medium in which each of the foregoing insects lives and feeds. The method of testing gives an overall measure of the contact, stomach, and fumigant action of each compound without distinction as to its mode of action. The most highly toxic substances were found to be 'Gammexane' (the gamma isomer of hexachlorocyclohexane) and chlordane (obtained by the distillation of technical chlordane). The toxicity of D.D.T. was, on an average, one half of that of these two compounds. In Part 2 Messrs. A. W. A. Brown, B. J. Werner and F. E. Park record the results of their experiments regarding the direct toxicity of 91 compounds against the nymphs of the German cockroach (*Blattella germanica*) and of the large milk-weed bug (*Oncopeltis fasciatus*), continuously reared in the laboratory on seeds of *Asclepias syriaca*, and also adults of the confused flour beetle (*Tribolium confusum*). The compounds used were dissolved in graded concentrations in a benzene-kerosene mixture and sprayed on the insects confined in a cylindrical glass spraying tower 29 in. high. Compressed air was applied to an atomizer at a uniform pressure of 23 cm. mercury. Taking the results with the three species of insects as a whole, the highest contact toxicity was shown by 'Gammexane' and chlordane. Dinitro-*o*-cresol and dinitrocyclohexylphenol were next in order of effectiveness. The results described in the two parts of this paper are based on tests carried out at the Experimental Station, Suffield, Alberta.

### International Veterinary Congress

THE Fourteenth International Veterinary Congress will take place in London during August 8-13, 1949, and the meetings will be held at the Central Hall, Westminster, and in Church House, Westminster, S.W.1. The Duke of Gloucester, who is the president of the Royal Veterinary College and Hospital of London, hopes to be able to open the Congress. As it is considered that the present world food situation is the most important scientific and practical question of the day, the programme of the Congress has been based on this theme. Every morning there will be a plenary session at which a paper will be presented by a leading authority on the veterinary profession's contribution to some aspect of world food production. Sectional meetings will be held in the afternoons, and the programme for these is designed to cover a wide range of subjects. The executive committee has been appointed as follows: *President*, Sir Daniel Cabot; *vice-president*, Prof. J. B. Buxton; *honorary secretary*, Dr. W. R. Wooldrige; *honorary treasurer*, Mr. G. N. Gould; *general secretary*, Mr. W. G. R. Oates. An exhibition of the latest instruments, appliances, drugs, disinfectants, books, etc., will be arranged near to the Central Hall. Social functions have been arranged for the evening of August 7, and during the week of August 15-20 excursions will be made to places and establishments of veterinary interest. Official invitations to the Congress have been issued by the Government of Great Britain to foreign, Commonwealth and Colonial Governments. Representation has been invited not only from government veterinary departments, but also from universities, veterinary schools and other interested bodies in every country. Persons desirous of attending the Congress should apply as early as possible, and all inquiries should be addressed to the Organising Secretary, Fourteenth International Veterinary Congress, 10 Red Lion Square, London, W.C.1.