

the first part of the Society's *Journal* would appear in September, and that it would contain a catalogue of all known papers giving information relating to the dates of publication of books on natural history. No such catalogue at present exists, and the publication should be of value to all systematists. An item on the programme of the Society which it is hoped will be of great value to all naturalists is the publication of facsimiles of rare works of importance to natural history. The decision of the Society to maintain an information bureau for the use of its members is an indication of the present trend of societies to make available to the individual member the collective experience and knowledge of all. The annual general meeting of the Society will be held on the first Saturday in February.

#### International Botanical Congresses

A FEATURE of the sixth International Botanical Congress held at Amsterdam last September was the re-organization of the Botanical Section of the International Union of Biological Sciences and its recognition by the Congress as a liaison between successive International Congresses. Hitherto, each quinquennial congress has been independent of preceding congresses, and has been organized entirely by an *ad hoc* committee of the nation which was acting as host. Participation by other nationals in its various activities was by invitation. A drawback of this arrangement has been the absence of any body to ensure that resolutions passed by one congress were carried out and that committees appointed for definite objects were set to work. A circular has now been issued by the honorary secretary of the Botanical Section of the Union describing the aims of international collaboration in science in general, and in particular defining the work of the Botanical Section in relation to successive congresses. The circular emphasizes the independence of the quinquennial congresses, the organization of which remains entirely in the hands of a national committee; but the various commissions and committees appointed by successive congresses will be adopted by the Botanical Section of the Union and thus "be united into a permanent, active and well-subsidized organization". This should ensure that work initiated at any one congress will be effectively carried out. For the present a definite liaison is suggested between the two organizations as the president of the Botanical Section of the Union, Prof. N. E. Svedelius, is vice-president of the next International Congress to be held in Stockholm in 1940. The president of the Congress is Prof. R. E. Fries.

#### Forestry Research in Canada

As a result of recommendations made at a Conference on Forestry Research held in Ottawa in November 1935, the National Research Council of Canada has appointed a committee to study the requirements in respect to research in all branches of forestry, including measures for the better utilization of forest products. This committee is to function as an associate committee of the National Research

Council, and includes in its membership representatives of the Dominion Departments of the Interior and Agriculture, in addition to the National Research Council; the forestry departments of each province; members of the forestry faculties of universities in which there are departments of forestry; the lumber, pulp and paper and allied industries throughout the Dominion; the forest engineering societies; the forest protective associations and the Canadian Forestry Association. It is understood that the committee will base its preliminary programme on the findings of the Conference on Forestry Research held in November 1935 already alluded to. The importance of forestry and her forests to Canada needs no emphasizing. Much valuable work is being done already in the direction of research by federal and provincial agencies, individual companies and other organizations. The new committee will bring together data on the work at present in progress, correlate the information thus obtained, investigate the need for further research, and so forth. It is evidence of broad and statesman-like views among those responsible for the formation of the committee that representatives of all sides of forestry interests are included. In Great Britain, the position is far otherwise—research work is too often relegated to water-tight compartments, energies being thus dissipated; forestry committees are not fully representative of all sides of forestry; whilst representatives of the individual forestry staffs of the universities as a whole do not automatically find places on forestry research committees.

#### Control of Rabbit Infestation by the Use of a Virus

OF all the pests from which the pastoral industry in Australia has suffered, rabbit infestation is probably the most serious economically, and little permanent success seems to follow the methods of control in use at present, such as trapping and poisoning. One hope would appear to lie in the discovery of some infectious disease, deadly to the rabbit but innocuous to man and other animals, and easily communicable to, and spreading widely by natural means among, the rabbits. Sir Charles Martin, as a result of an experimental inquiry, suggests that a disease 'rabbit myxomatosis' may fulfil these requirements (Commonwealth of Australia. Council for Scientific and Industrial Research, *Bull.* No. 96. Melbourne, 1936). This is an infectious, highly fatal, febrile disease caused by an ultra-microscopic virus, causing mucinous discharges, swellings and tumours in affected animals, fatal within twelve days or so, transmitted sufficiently by contact, and with a fatality of almost a hundred per cent. It attacks animals of the genus *Oryctolagus*, to which wild rabbits in Europe and Australia, and domesticated rabbits in Europe and America, belong; but it does not affect the indigenous rabbits of America, or man and other animals and birds. Experiments were conducted by Sir Charles Martin in a pen measuring 50 yards  $\times$  10 yards, with both tame and wild rabbits. A colony having been established for three weeks or thereabouts, one or two rabbits inoculated

with the disease were introduced. With colonies of 27 and 30 tame, and 55 and 44 wild, rabbits, the fatality was 99.6 per cent among the tame, and 100 per cent among the wild. The disease originally came from epizootics among tame rabbits in South America.

#### Research at Millport

THE Annual Report of the Executive to the Council of the Scottish Marine Biological Association for 1934-35 includes the director's report on research. Drs. Orr, Marshall and Nicholls are concentrating on the development and food of the herring from hatching onward. In this connexion, it is found that copepods are by far the most important food organisms, the larval and post-larval herring eating chiefly the small species. In view of this fact, it was decided to investigate seasonal distribution and breeding periods of these small copepods, in the same way as has already been done for *Calanus finmarchicus*. Results so far show that in the early months *Microcalanus pusillus* and *Oithona helgolandica* were the most abundant species, with *Pseudocalanus elongatus*, *Centropages hamatus*, *Temora longicornis* and *Acartia clausi* occurring in smaller numbers. Most of the important planktonic organisms have been weighed, and in some cases the chemical composition determined. During the winter, when zooplanktonic organisms are scarce, a beginning was made on the analysis of non-planktonic animals important as fish food. Investigations on shore ecology, especially in Kames Bay, by Dr. A. C. Stephen and Mr. Elmhirst, have been continued. The work already done has shown a very rich fauna important for fish food. Various fishes from the seine net have been examined and shown to feed on the dominant invertebrates. A very interesting feature in these investigations is the work by Dr. Nicholls on sand-dwelling copepods, especially minute species living in the interstices between the sand grains on the beach. Several new species of these and three new genera have been found. Other researches include algal ecology and preserving colour in green seaweeds, experiments on timber preservation in the sea and the growth of the dog-fish *Acanthias*.

#### Seismology in New Zealand

THE report of Dr. C. E. Adams, Dominion Astronomer and Seismologist, for the year 1934 (*Dept. Sci. Indus. Res. Bull.*, No. 105) shows that the seismic activity of New Zealand was much greater during that year than in 1933, the number of earthquakes felt being 230, instead of 108. Of these, 158 were felt in the North Island only, 60 in the South Island only, and 12 in both islands. The most important shock was that of March 5 at 11.16 p.m. N.Z. time (11.46 a.m., G.M.T.). Its intensity in several parts of northern Wairarapa reached the degree 9 of the Rossi-Forel scale and chimneys fell over a wide area in the southern part of the North Island. The map that accompanies the paper shows that most of the epicentres lay in the extreme north of South Island and the southern half of North Island. Owing to the increased activity off the east

coast of the latter island and to other changes that have been reported along the coast, it is strongly recommended that a detailed marine survey should be carried out of the whole east coast, including soundings in the seas to the east of New Zealand.

#### Solar Activity and Terrestrial Phenomena

IN 1924 the International Research Council (now transformed into the International Council of Scientific Unions) formed a Commission for the Study of Solar and Terrestrial Relationships, a field of science which extends over the domains of at least three of the International Scientific Unions. This Commission, among other activities, has published triennial reports, reviewing the state and progress of knowledge on solar and terrestrial relationships, and, where necessary, making recommendations regarding action that may conduce to further progress. These reports are distributed to certain libraries and to institutions and individuals occupied in work relating to the subject. The fourth report has recently been issued (*Conseil International des Unions Scientifiques: Quatrième Rapport de la Commission pour l'Étude des Relations entre les Phénomènes Solaires et Terrestres*; pp. 159. Firenze, 1936) under the editorship of the president of the Commission, Prof. G. Abetti, Astrophysical Observatory, Arcetri, Italy. It differs from its predecessors in being better and more attractively produced, and in having a valuable 28-page introduction by the editor, giving a general survey of the subject for the past three years. The remainder of the volume consists of twenty-one brief articles on different aspects of the subject, by various authors.

#### Electric Supply in the Irish Free State

THE annual report of the Electricity Supply Board of the Irish Free State for the year ending March 31, 1936 shows that a further increase in the sale of electricity has been effected, and results in a surplus of income over expenditure of about £310,000. The total capital expenditure is now about 10½ million pounds, of which 5 per cent is paid to the State. The total sale of electric units during the year amounted to 187 millions, and the average receipts per unit dropped from 1.92*d.* to 1.84*d.* The figures show a very satisfactory acceleration in the development of the consumption of electricity for domestic purposes. In the environs of Dublin the consumption increased by 63 per cent. The total units generated during the year were 243 millions, of which 211 millions were supplied by the hydro-electric power station on the Shannon. Details are given of the extension of plant, and the building of new works on the Shannon and at the Pigeon House in Dublin. Two Swiss experts have reported on the development of the River Liffey for hydro-electric purposes. As it is the intention of the Corporation of the City of Dublin to use the water-storage reservoir on the Liffey to augment the ordinary water supply to the city, it was found inadvisable to take full advantage of the Liffey water-power project for six or seven years. As soon as the necessary legislative provision has been obtained, the work on the reservoir will be