

of a new *Griffithides* from the Permian Nasoni formation, its nearest known relative being *G. acanthiceps* from the Carboniferous limestone of England. A second paper by the same author discusses and re-describes the original type specimen of Vogdes' *Phillipsia (Griffithides) ornatus* from the Lower Coal measures, Conway County, Arkansas, renaming it *Griffithides conwayensis*.

#### Bird Sanctuaries in London

THE industry of the voluntary observers who report to the Committee on Bird Sanctuaries in the Royal Parks (England) gives a wonderfully full picture of bird-life in Greater London (Report of Committee for 1934. London: H.M. Stationery Office. 6d. net.). In Richmond Park, 56 species bred, and 38 other species were seen or heard; in Bushey and Hampton Court Parks, 52 species nested, including kingfisher and nightingale, and 26 others were seen. But the surprising thing is that, in the midst of the commotion of London itself—in Hyde Park and Kensington Gardens—there should appear visitors like the red-throated diver, the Slavonian grebe, and the golden-eye duck, all of them recorded for the first time in that area. It is said also that the Scandinavian form of the lesser black-backed gull appeared on the Serpentine in the autumn of 1933. Curious diversity in choice of roosting sites is shown by starlings and wood-pigeons: every evening about sunset, during autumn and winter, the latter leave St. James's Park, where there are plenty of suitable roosts, to spend the night in Battersea Park; and they make use of the very trees which some of the 2,000 starlings have sampled and abandoned before they continue their journey to roost in St. James's Park, which the pigeons have just left.

#### Research in the Tortugas Laboratory

THE section in the Year Book, No. 33 (1934) of the Carnegie Institution of Washington dealing with this station reports a number of workers during the season and a great variety of subjects. Although much work is done in the field, there is a notable increase from year to year in the use of apparatus requiring electric current. This will probably necessitate the installation of a power plant of greater capacity in the future. Dr. Alan Boyden, continuing his serological studies of invertebrates, has used examples from many different phyla, including 7 molluscs, 4 arthropods, 8 echinoderms and 5 chordates. The results have been very satisfactory, and will enable light to be shed upon some of the more obscure relationships between the major groups of animals. Other researches include a study of the ecology and physiology of corals by Prof. C. M. Yonge, who found that the opportunity to examine the reefs in detail was of special value in view of his previous experience with Pacific coral reefs, and Mr. J. E. Harris's observations on the swimming movements of fishes, which embrace work on the fishes in their natural surroundings besides cinematographic experiments with special relation to their fins, whilst Prof. W. H. Longley's subject is the systematics of the Tortugas fishes.

#### Marine Research at Cullercoats

THE Report for the year ending July 31, 1934, of the Dove Marine Laboratory, Cullercoats, Northumberland (Armstrong College), published by the Marine Laboratory Committee and drawn up by the director, Prof. A. D. Hobson, shows it was a period of expansion of the activities of the Laboratory. The research work of the staff has been well maintained and there has been an increase in the number of outside workers. A number of alterations have been made in the building, including the conversion of a little-used lecture room into a new laboratory in which about a dozen students can be accommodated, or five research workers. This can be used for experimental and chemical work for which the main laboratory is not suitable. The work on herring has been continued as agreed with the Ministry of Agriculture and Fisheries, samples from the catches from the local shoals landed at North Shields during the season of 1933 being duly examined. Further investigations on the shoals from other parts of the coast have been continued. In Dr. Bull's work on conditioned responses in fishes, special attention is being paid to temperature, and it is found that teleostean fishes generally are extremely sensitive to temperature and that they can react to it purposively. Experiments on the perception of changes in salinity are now progressing satisfactorily. An excellent paper on the British Sphæromatidæ (Crustacea Isopoda) by Joseph Omer-Cooper and J. Hedley Rawson is included in this report. One of the species (*Limnoria lignorum*) is of economic importance as it is a wood-boring form and very widely distributed. A detailed discussion on the distribution of the Sphæromatidæ is included. In his aquarium observations Dr. Bull makes some important observations on the enemies of the common star-fish *Asterias rubens*, and shows that it is the only food eaten readily by the sun-stars *Solaster papposus* and *S. endica* and the northern stone-crab *Lithodes maia*. Adult specimens of all three can be maintained in captivity for long periods on such a diet.

#### British Association Mathematical Tables

PROGRESS in the publication of these tables has been rather slower than was anticipated, chiefly owing to the great labour required in correcting the proofs. Vol. 5, containing the prime factors of all numbers up to 100,000, has now been passed for printing. Tables for cyclotomy and trinomial congruences, offered by Prof. L. E. Dickson, have been accepted for publication. With regard to Bessel functions, at least three volumes will be required. The first of these (forming vol. 6 of the Tables) is now in the press, and will be published shortly. The calculations for the other volumes will absorb the greater part of the Committee's time and money during the next year.

#### German Chemical Industry

SHORT summaries of papers delivered at the conference of the Deutsche Gesellschaft für Chemisches

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Apparatewesen E.V., held at Königsberg on July 3-5 last, indicate that the object aimed at is the use of raw materials obtained in Germany in the manufacture of German goods. When a suitable material, native to that country, is not available, steps should be taken to enable other materials, found in Germany, to be adapted for the required purpose. Where, however, suitable substitutes cannot be found, investigations should be made with the view of constructing the plant or article using the minimum quantities of imported materials. No details regarding how these objects are to be attained are given, so that unless the original papers are studied, little more than an outline of the subjects considered can be obtained, the motto of the congress being "Nur deutsche Stoffe für deutsche Waren".

#### Engineers' Study Group on Economics

THE Engineers' Study Group on Economics is entering its third year of activity, and Sir Richard Gregory has been elected president for the year. The Group consists of six sections investigating the various factors that may help to solve the present paradox of poverty amidst plenty. An analysis of twenty-four existing or proposed social and economic systems, prepared by Section B of the Group, was noticed in *NATURE* of May 25, 1935, p. 884. Section A, which is investigating the available, the desirable and the potential production of Great Britain, hopes to present a similar report shortly. Scientific workers, not necessarily engineers, willing to help in the application of scientific principles to the urgent problems of the day are welcomed by the Group. The yearly subscription is: minimum 5s., maximum £1. Sections meet in the evening at 85 Gloucester Place, W.1. The next group meeting will be at the Guildhouse, Eccleston Square, S.W.1 (Berwick Street entrance), on Tuesday, October 15, at 7 p.m.; Sir Richard Paget will speak on his recent visit to the U.S.S.R. Those wishing to attend should notify the honorary secretary, A. H. Hayes, Hazlitt House, Southampton Buildings, W.C.2 (Tel.: Holborn 1068).

#### Tsetse Fly Control

THE report of the East Africa Sub-Committee of the Tsetse Fly Committee, Economic Advisory Council (Cmd. 4951. London: H.M. Stationery Office. 1s. net), epitomises many factors bearing upon the problems of human sleeping sickness, as well as of tsetse fly diseases of animals, in Africa. Both diseases are caused by trypanosome parasites and are transmitted by tsetse flies, so that methods for eradication of the flies constitute important preventive measures. The most recent advance in this direction is by means of densification of the vegetation. It has been found that if a patch of tsetse-infested bush is protected from grass fires for several seasons, the growth becomes so dense as to be highly unfavourable to certain species of tsetse, and further investigation on these lines on a large scale is desirable.

#### Therapeutic Substances

THE Joint Committee constituted under the Therapeutic Substances Act, 1925, has issued addi-

tional regulations dealing with several agents, namely, staphylococcus toxoid, antipneumococcus serums (Types i and ii), staphylococcus antitoxin, gas-gangrene antitoxins and diphtheria prophylactic ("Statutory Rules and Orders 1935, No. 580"). The provisions applicable to these substances, which have now attained definite value in medical practice, include definition and proper name, labelling, quality, strength, and tests of potency, and unit of standardisation.

#### Export of British Scientific Instruments to France

CERTAIN kinds of British optical and scientific instruments are subject to special quotas when imported into France. In order to ensure the full benefit of these quotas to British manufacturers, and to prevent the detention of shipments, the French Government has authorised the Scientific Instrument Manufacturers Association of Great Britain to issue certificates to shippers. The instruments to which these certificates apply are as follows:—simple surveying instruments; dividing machines; house barometers; apparatus for physical and chemical demonstration for schools and colleges; apparatus for physical and chemical researches and analyses; surveying instruments for geodesy, topography and measurements of angle. More precise information may be obtained from the Secretary, Scientific Instrument Manufacturers Association of Great Britain, Limited, 329 High Holborn, London, W.C.1.

#### International Exhibition of Nature Photography

THE Right Hon. the Earl of Onslow, president of the Society for the Preservation of the Fauna of the Empire, will open an International Exhibition of Nature Photography in the Whale Hall of the British Museum (Natural History), South Kensington, on Wednesday, October 16, at 12 noon. The object of the exhibition is to show the advance nature photography has made during recent years; and the exhibition should be of considerable interest and educational value. It will remain open every day from 10 a.m. until 6 p.m. (Sundays 2.30 p.m. until 6 p.m.) from October 16 to November 30. Admission is free. More than 1,200 photographs of birds and mammals will be shown, including examples from all British Colonies as well as from the United States, Poland, Japan, etc.

#### French Congress of Hygiene

THE twenty-second French Congress of Hygiene will be held at the Institut Pasteur, Paris, on October 21-23, when the chief subjects for discussion will be the hygiene and protection of infancy, and will be followed on October 23 by a meeting of the Société de la météorologie médicale, an offshoot of the Société de médecine publique. Further information can be obtained from the general secretary, Dr. Dujarric de la Rivière, Institut Pasteur, rue Dutot, Paris.

#### German Pharmacological Society

THE German Pharmacological Society will hold its annual meeting at Munich on October 20-23, when