

## Societies and Academies

## Edinburgh

Royal Society, January 10.

A. B. WILDMAN and J. MANBY: The hairs of the Monotremata, with special reference to their cuticular scale pattern. An improved technique for the examination of cuticular scale margins is described and the sequences of scale form along the fibres are discussed and demonstrated photographically. The sequence on the shield-hair of *Ornithorhynchus* is unique and in this, as in other characteristics, the shield possesses a marked bilateral symmetry. Those tail fibres, which possess no shaft portion, correspond to the shields of the more typical shield-fibres. Support is given to the view that the shields constitute a remnant of a more primitive spinous coat. The authors indicate that changes in scale-form along the fibre are innate and are not caused by attrition.

A. GRAHAM: The structure and function of the alimentary canal of æolid molluscs, with a discussion on their nematocysts. The anatomy, histology and physiology of the alimentary tract of four species of æolid molluscs are described. The digestive gland secretes enzymes, digestion occurs in its ducts and in the stomach. Soluble food is absorbed in these positions and in the gland where particles of food are also ingested. Mucus from buccal and pedal glands secreted over the food appears to prevent the discharge of nematocysts; those stored in the cerata are exploded by mechanical means.

MARY G. CALDER: Some undescribed species from the Lower Carboniferous flora of Berwickshire; together with a note on the genus *Stenomyelon* Kidston. Two new species of petrified seeds are described: *Calymmatotheca kidstoni* is a radiospermic, cupulate seed, and *Samaropsis scotica* is a platyspermic, winged seed. *Kalymma tuediana* n.sp., a petiole probably allied to *Calamopitys*, is also described. The species *Stenomyelon tripartitum* Kidston is shown to be synonymous with *S. tuedianum* Kidston. The descriptions are based upon material from the Calciferous Sandstone Series (Cementstone Group) at various localities in Berwickshire; the material is now in the Kidston Collection in the Botany Department of the University of Glasgow.

H. MERTON: Studies on reproduction in the albino mouse. (1) The period of gestation and the time of parturition. With the help of a self-recording balance, constructed after the principle of a letter-scale and connected with a kymograph, the hour of parturition can be fairly accurately determined. Two-thirds of the births took place between 4 p.m. and 4 a.m. Of 90 females, 84 were fertilized within 4 days after being placed with a male: they therefore showed a very regular cycle of 4-5 days. The methods are described which can be used to predict the day of birth. The average size of 504 recorded litters during the year was 7.0, the largest (8.3) occurring in August.

## Paris

Academy of Sciences, December 27 (C.R., 205, 1333-1476)\*.

MME. LÉONE WALTER-LÉVY: Neutral magnesium chlorocarbonate.

ALEXANDRE TRAVERS and HAMID ZAHABI: The preparation of the hexahydrate of tricalcium aluminate.

MME. PAULINE RAMART-LUCAS: The structure and absorption of colouring matters. Isomeric forms of fluorescein.

MARC TIFFENEAU and BIANCA TCHOUBAR: The removal of halogen by silver from the iodhydrines of the  $\alpha$ -cyclanediols.

MME. YVONNE KHOUVINE and YOSHINORI TOMODA: The total acetylation and methylation of  $\alpha$ -*d*-tagatose.

HENRY GAULT and JEAN BURKHARD: A partial synthesis of methyl-cyclopentenolone from wood tar.

DANIEL BODROUX and RENÉ THOMASSIN: Syntheses effected with *p*-cyclohexylbenzyl chloride.

LOUIS ROYER: The orientation of certain alkaline halides by calcite.

JEAN GUBLER: The structural and palæogeographical unities between Fez and Le Sebou (Northern Morocco).

GEORGES CHOUBERT: The Lias of the eastern Haut-Atlas and of the Hauts-Plateaux.

JEAN SAGATZKY: The Tarkwaian system in Ex-Haute-Volta.

RAYMOND JOUAUST, ROBERT BUREAU and LOUIS EBLÉ: The sudden disappearance of radio-electric waves, their relations with magnetic and solar phenomena. From a study of a year's data, it is concluded that chromospheric eruptions cause sudden disappearance of radio-electric waves and, at the same time, small local magnetic disturbances are produced, the latter differing from magnetic storms.

PIERRE DANGEARD: The presence of pyrenoids in some species of *Vaucheria*.

JACQUES RABATÉ and JEAN DUSSY: A new holodiglucoside extracted from sophoraflavonolioside.

VICTOR PLOUVIER: The presence of amygdonitrilglucoside in the genus *Cotoneaster* and some other Rosaceæ.

EMILE MIÈGE: The baking qualities of *Triticum*, of *Ægilops* and of their hybrids.

JOSEPH LEFÈVRE: Some effects observed as the result of the treatment of seeds and cuttings with various substances and especially with heteroauxin.

ANDRÉ HOLLANDE: Amœbæ of the limax type, in their relations with flagellates.

PIERRE DRACH: The origin of the limestone in the tegumentary skeleton of the crustacean Decapods.

DANIEL AUGER: The stimulation of an internode of *Nitella* by the current of action of a contiguous inter-node, latent addition.

MARIUS PIÉRY, JEAN ENSELME and MME. SIMONE PETEL: Researches concerning the influence of mineral waters on tissue respiration. The constitution of a system of research by means of Warburg's technique.

RAYMOND-HAMET: The physiological activity of pure gelsemine.

MME. MARIE THÉRÈSE REGNIER: The action of the sexual hormones on the inversion of sex in *Xiphophorus helleri*.

ALBERT RAYNAUD: The histological study of the genital tract of female mice transformed experimentally into free-martins.

JAQUES MONOD: Maintenance ration and growth ration in bacterial populations.

RENÉ CATALA: The influence of thermal agents on the nymphosis of the larvæ of *Chrysidia madagascariensis*.

MME. NADINE DOBROVOLSKAIA-ZAVADSKAIA: The appearance of a new *culbute* mutation in two different strains of mice.

FRANÇOIS ARTIGAS: The absorption by thin screens of the radiation of potassium sulphate and of plant ashes.

\*Continued from p. 300.

**GEORGES BROOKS:** The determination of the fluorescence spectra of ash isolated from the tissues of *Rana esculenta*.

**LAZARE SILBERSTEIN:** The action of chloropierin on the vitamin B<sub>1</sub> contained in wheat. Chloropierin is increasingly used for the destruction of insects in cereals: experiments on pigeons show that vitamin B<sub>1</sub> in wheat is unaffected by this chemical.

**MME. YVONNE JÉRÔME-LÉVY:** The acetic fermentation in the presence of charcoal. In the presence of charcoal the production of acetic acid is accelerated, and the quantity produced is also higher.

**AUGUSTE CUÉNOD and ROGER NATAF:** The polymorphism of *Rickettsias* of the trachome.

**ARTHUR VERNES, ROBERT BRICQ and MLE. ANDRÉE GAGER:** New considerations on the pallidine of syphilitic sera.

### Calcutta

National Institute of Sciences of India, January 9.

#### SYMPOSIUM ON RIVER PHYSICS IN INDIA.

**D. N. WADIA:** Changes in the courses of Indian rivers during the latest geological epoch.

**SUNDER LAL HORA:** Changes in the drainage of India, as evidenced by the distribution of freshwater fishes.

**C. C. INGLIS:** The use of models for elucidating flow problems based on experience gained in carrying out model experiments at the Hydrodynamic Research Station, Poona.

**GERALD LACEY:** The flow of water in alluvial channels.

**KANWAR SAIN:** The effects of the construction of weirs and weir-controlled canals on the regimes of the Punjab rivers.

**A. N. KHOSLA:** Design of weirs on permeable foundations.

**N. K. BOSE:** River physics laboratories of Europe and America.

**S. C. MAJUMDAR:** River problems in Bengal.

**P. C. MAHALANOBIS:** River floods in Orissa.

### Cracow

Polish Academy of Science and Letters, December 6.

**MLE. L. STANKIEWICZ:** The arithmetical operations in the numerical solution of a system of linear equations according to the methods of Banachiewicz.

**W. SWIETOSLAWSKI, L. KEFFLER and J. SALCEWICZ:** Contribution to the study of the quantity of heat evolved in the internal transformation of a block of lead produced by the action of its own weight. The authors prove the existence of a thermal effect of the order of  $0.4 \times 10^{-4}$  to  $0.2 \times 10^{-4}$  calories per gram per hour. When massive blocks of lead are used for measuring the heat given off by radioactive elements, this phenomenon must be taken into account.

**J. MOSZEW:** Syntheses of compounds of the type 2'-phenyl-3', 4', 2, 3-quinolinoquinoline.

**ST. KREUTZ:** The metamorphosis of the amphibolite rocks of the Tatra.

**L. CHROBAK:** Pegmatites and granites containing molybdenite of the western Tatra.

**J. WOJCIECHOWSKI and MLE. L. SKROBINSKA:** The action of the hydrogen ion concentration on the chemotropism produced by phosphates.

## Forthcoming Events

[Meeting marked with an asterisk is open to the public.]

### Monday, February 21

**IMPERIAL COLLEGE OF SCIENCE** (Chemistry Lecture Theatre), at 5.15.—Prof. W. P. Jorissen: "Reactions in Gaseous and Solid Mixtures".\*

**ROYAL GEOGRAPHICAL SOCIETY**, at 8.30.—A. Stephenson and the Rev. Lancelot Fleming: "King George the Sixth Sound".

### Wednesday, February 23

**SOCIETY FOR THE STUDY OF ALCHEMY AND EARLY CHEMISTRY**, at 8.—R. B. Pilcher: "Alchemists' Apparatus in Art".

**ROYAL SOCIETY OF ARTS**, at 8.15.—Oscar Borer: "Reclamation of Tidal Lands".

### Friday, February 25

**ROYAL INSTITUTION**, at 9.—Prof. D. M. S. Watson, F.R.S.: "Pterodactyls Past and Present".

**ASSOCIATION OF TECHNICAL INSTITUTIONS**, February 25-26.—Annual General Meeting to be held in the Haberdashers Hall, Gresham Street, London, E.C.2.

February 25, at 11 a.m.—Sir Robert Pickard, F.R.S.: Presidential Address.

## Appointments Vacant

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:

**LECTURER IN ENGINEERING** in the East London Technical College, South Africa—The High Commissioner for the Union of South Africa, Trafalgar Square, W.C.2 (March 4).

**UNIVERSITY DEMONSTRATOR IN ENGINEERING**—The Secretary of the Appointments Committee, Engineering Laboratory, Cambridge (March 9).

**LECTURER IN ANATOMY** in the University of Belfast—The Secretary.

## Reports and other Publications

(not included in the monthly Books Supplement)

### Great Britain and Ireland

Report of the Little Owl Food Inquiry, 1936-37. Organised by the British Trust for Ornithology. By Alice Hibbert-Ware. Pp. 74+8 plates. (London: H. F. and G. Witherby, Ltd.) 3s. 6d. net. [201

Leeds University. Report to the Worshipful Company of Clothworkers of the City of London of the Advisory Committee on the Departments of Textile Industries and Colour Chemistry and Dyeing during the Session 1936-37. Pp. 24. (Leeds: The University.) [201

University College of Wales, Aberystwyth. Leaflet Series S, No. 4: New Varieties and Strains from the Welsh Plant Breeding Station—Two New Varieties of Oats. S84, Spring Oats for Soils of High Productive Capacity; S175, Spring Oats for Soils of Medium Productive Capacity; and Notes relative to the Cultivation of Ceirch Llwyd Cwta (S171) and relative to the Selection of Varieties. Pp. 23+3 plates. (Aberystwyth: Welsh Plant Breeding Station.) 1s. [211

University of London: Institute of Education. The Teaching of Mathematics: a Bibliography. By Max Black. Pp. 14. (London: Christophers.) 6d. [251

### Other Countries

Statens Meteorologisk-Hydrografiska Anstalt. Årsbok, 17, 1935. vi. Aerologiska iakttagelser i Sverige, 1934-1935. Pp. 10. 3.00 kr. Meddelanden, Serien Uppsatser. No. 16: Luminous Efficiency of Solar Radiation. By T. E. Åurén. Pp. 24. 1.50 kr. No. 20: Några aktinometrars egenskaper med hänsyn till mätning av artificiell strålning i samband med växtodling. Av Gösta Köhler. Pp. 98. 3.00 kr. No. 21: Hydrologisk bibliografi åren 1935 och 1936, Sverige, årgångar 2 och 3. Pp. 14. 1.00 kr. No. 23: Actinometric Measurements near Stockholm, 1930-1936. By Anders Ångström. Pp. 28. 2.00 kr. (Stockholm: Statens Meteorologisk-Hydrografiska Anstalt.) [211

Science and Reality. Pp. 28. (Calcutta: Science and Reality.) [251  
Mittellungen der Prähistorischen Kommission der Akademie der Wissenschaften. Band 3, Nr. 1-3: Untersuchungen im Bergbaugebiete Kelchalpe bei Kitzbühel, Tirol. Von Ernst Preuschen und Richard Pittioni. Pp. 160+39 plates. (Wien: Holder-Pichler-Remsky A.G.) [251