

Societies and Academies

Edinburgh

Royal Society of Edinburgh, November 8.

F. A. E. CREW: The sex ratio in the domestic fowl and its bearing upon the sex-linked lethal theory of differential mortality. Among 2,216,051 live-born chicks the percentage of males was 51.38 ± 0.03 . Among 8,565 dead in shell the percentage of males was 51.03 ± 0.54 . These figures do not support the sex-linked lethal theory. There are significant differences in the secondary sex ratio of different 'breeds' and this fact probably explains the differences in the sex ratio reported by different investigators.

N. GALPIN: Factors affecting hatching weight of chickens. Analysis of data show that chicken hatching weight, egg weight, percentage hatching weight of egg weight, and hatchability, tend to decrease as egg production increases. When reproductive activity falls off the above factors increase. From glandular weight, thyroid activity appeared to be highest during months of high egg production. The high thyroid activity has been related to the decrease in hatchability, egg weight, hatching weight, and percentage hatching weight of egg weight.

F. A. E. CREW and S. S. MUNRO: Gynandromorphism and lateral asymmetry in birds. Three new cases of gynandromorphism and five of simple lateral asymmetry are recorded. Critical examination of all reports indicates that autosomal elimination is responsible for simple asymmetry, and autosomal non-disjunction for gynandromorphism and pronounced lateral size asymmetry in the XY or female type, and for pronounced lateral size asymmetry only in the XX or male type.

Paris

Academy of Sciences, October 26 (C.R., 205, 697-760).

JULES DRACH: The reduction of the general equation of Riccati.

PAUL DUBREIL and MME. LOUISE DUBREIL-JACOTIN: The algebraic properties of the relations of equivalence.

ALEXANDRE WEINSTEIN: The spectrum of the equation of the vibrations of framed plates.

MENAHEM SCHIFFER: A calculus of variation for a family of univalent functions.

FERNAND AIMOND: Some properties of surfaces deduced from their mechanical significations.

ALEXANDRE FAVRE: Study of the Toussaint-Caraffoli hydrodynamic tunnel with the view of obtaining bidimensional movements. Flow without circulation.

ROBERT SILBER: The definition of unitary coefficients and of the polars of the complete aeroplane.

JEAN DUFAY: Remarks on the diffusion of light in the Milky Way.

HENRI MINEUR: The determination of the distance of the centre of the Milky Way and the constants of the galactic rotation by means of the open clusters.

EMILE SEVIN: The theory of stellar radiation.

JEAN LOUIS DESTOUCHES: The equivalence group of a deductive theory.

JOSEPH BETHENOD: Study of the discharge of a condenser through a gas tube.

MARCEL LEMARCHANDS and WALTER JUDA: Concerning the phenomena of electrolytic overvoltage.

PIERRE GENET: Sodium hydrogen arsenate, NaH_2AsO_4 , and its hydrates.

GEORGES ARRAGON: The structure of two pent-acetyl sorbosides.

MME. YVONNE KHOUVINE and YOSHINORI TOMODA: Tagatose and methyltagatoside.

ANDRÉ WAHL and VICTOR LIVOVSKI: The dimethylloxindoles.

CHARLES DUFRAISSE and JEAN HOUPIILLART: Researches on the dissociable organic oxides. The hydrogenation of the photoxides. The results of the hydrogenation of naphthacene, tetraphenyl naphthacene (rubrene), anthracene and mesodiphenylanthracene, with Raney nickel as catalyst, are given, and their meaning discussed.

PAUL RIOU, GÉRARD DELORME and HORMISDAS GAMELIN: The distribution of manganese and iron in the conifers of Quebec province. Analyses are given of various organs of six species of conifers. In all species, the leaves have the highest proportion of manganese, and an increase in the amount of manganese is accompanied by a reduction in the amount of iron.

AURELIO QUINTANILHA: Contribution to the genetic study of Buller's phenomenon.

JULES ALQUIER and MME. ANDRÉE MICHAUX: The calcium/phosphorus ratio in the cutaneous tissue and in the blood of the rabbit in the course of growth.

VICTOR PLOUVIER: Researches on the stabilization of some plants giving hydrocyanic acid.

CHARLES JOYEUX and JEAN GEORGES BAER: Researches on the evolution of the cestodes of Gallinaceae.

STÉFAN NICOLAU: The genesis of the inclusions produced by ultra-virus in general and by the herpetic virus in particular.

ANDRÉ LWOFF and HISTAKE DUSI: Thiazol, a growth factor for the flagellates *Polytoma caudatum* and *Chilomonas paramaecium*.

Cape Town

Royal Society of South Africa, October 20.

W. E. ISAAC: Evolution of a growth-inhibiting emanation from ripening peaches and plums. Air passed over certain varieties of ripening peaches and plums was found to exercise a marked effect on seedlings of the broad bean (*Vicia Faba*), sunflower (*Helianthus annuus*), and the Canadian wonder bean (*Phaseolus vulgaris*) and also on sprouting potatoes. The Canadian wonder bean was used for most of the experiments. The effects were: retardation of growth in length, increased growth in thickness due primarily to an increase in the size of the cortical cells, decrease of total amount of growth and changed reaction to gravity. Quantitative evidence was obtained of decrease in total amount of growth. Evidence is presented for regarding ethylene, evolved in very small amounts, as the effective growth inhibitor.

J. L. B. SMITH: A new gobioid fish from South Africa.

I. DONEN: A note on the distribution of chemical compounds in the inner and outer portions of the flesh of the Kelsey plum.

W. PUGH: Complex fluorides of gallium and some heavy metals.

F. G. CAWSTON: (1) The development of teeth in the radula of fresh water Mollusca. There is a rapid increase in the number of teeth of fresh water Mollusca as soon as the radula is put to use after the animal hatches out. Tricuspid teeth in each row are added to from the marginals whose cusps coalesce as the animal grows. Fresh water species possess broad rows of teeth but not so many as some lagoon and land species. The stoutest teeth are those which are exposed to most use. Some increase in size of individual teeth may be expected during the first few months of the animal's existence. The best illustrations of typical teeth of the various fresh-water molluscs are obtained by preparing camera lucida models. (2) South African larval trematodes with forked tails the life-cycle of which is at present unknown. It is considered important to discover the life-cycle of furcocercous cercariae if the various forms are to be recognized. Difficulty is experienced in the differential staining of cercariae. Notes are given on some South African cercariae.

JOHN HEWITT: Descriptions of new forms of the genus *Acontias* Linn. Five new subspecies are described, preceded by an introductory account dealing with the forms occurring in Africa and their distribution.

W. J. COPENHAGEN: Sulphur as a factor in the corrosion of iron and steel structures in the sea. (2) Sulphides in bottom muds of certain harbours of the world. In a previous paper, reference was made to the occurrence of ferrous sulphide in the corrosion product on the surface of iron and steel vessels and structures when immersed for a period in sea-water. In all cases of bottom muds, except open roadsteads, ferrous sulphide was present in the bottom muds in comparatively higher concentration than that of marine muds on the floor of the ocean. The origin of the ferrous sulphide in bottom muds has been investigated and is of bacterial origin, that is, (a) from decomposition products of waste in harbours, and (b) by the reduction of sulphates in sea-water. Ferrous sulphide under certain conditions is oxidized to ferric oxide and elementary sulphur. The latter rapidly combines with exposed iron (in iron and steel structures) and rapid corrosion of the structures ensues.

Moscow

Academy of Sciences (*C.R.*, 16, No. 3, 1937).

I. M. VINOGRADOW: Some new problems of the theory of primes.

B. SALTYSKOV: (1) The solution of the integral equation of N. Moisseiev in the theory of the non-regularized geoid figure. (2) The quasi-Stokes form of the integral equation of N. Moisseiev for the non-regularized geoid.

M. KELDYŠ and M. LAVRENTIEV: The uniqueness of solution of the Neumann problem.

B. FUCHS: The group of analytical movements of invariant geometry with pseudoconformal images.

L. V. KANTOROVICH: The moment problem for a finite interval. (A correction to the note published in *C.R.*, 14, No. 9, p. 531; 1937.)

L. MAGNARADZE: Fundamental problems of the theory of elasticity in two dimensions, for contours with angular points.

I. N. VECOUA: A complex representation of the general solution of equations of the stationary flat problem of the elasticity theory.

V. A. GAVRILENKO: Additional considerations regarding the distribution of velocities in turbulent uniform flow.

V. KUPRADZE: The theory of electromagnetic fluctuations in an even non-homogeneous field.

N. K. MIHAL: The determination of plummet deflections from the anomalies in the horizontal gradient of gravity.

A. I. KURENCOV: Fundamental regularities in the distribution of the dendrophilous lepidopterous fauna (Macrolepidoptera) in the Ussuri province.

B. A. ZENKOVIČ: Weighing whales.

E. ANDREJEVA: Ossification of the skeleton of the extremities in embryos of the Kirghizian fat-tail sheep.

A. A. TERENTJEVA: Development of the hairy covering in the Kirghizian fat-tail sheep.

Forthcoming Events

[Meetings marked with an asterisk are open to the public.]

Monday, December 13

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—F. S. Chapman: "Lhasa in 1937".

Wednesday, December 15

GEOLOGICAL SOCIETY OF LONDON.—Prof. R. M. Field: "Geophysical Exploration of Ocean Basins".

Thursday, December 16

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Sir Charles Sherrington, F.R.S.: "Jean Fernel and Astrology" (Thomas Vicary Lecture (2)).

INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—General Discussion on "Electrical Engineering Education". Introductory papers by Prof. C. L. Fortescue, Col. H. C. Fraser and F. H. Clough.

Friday, December 17

INSTITUTION OF CHEMICAL ENGINEERS (at the Institution of Civil Engineers), at 6.30.—Dr. R. E. Slade: "The Development of Grass Drying" (Annual Public Lecture).*

Appointments Vacant

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

UNIVERSITY DEMONSTRATOR IN MINERALOGY AND PETROLOGY in the University of Cambridge—Dr. F. C. Phillips, Department of Mineralogy and Petrology, Downing Street, Cambridge (December 14).

SCIENTIFIC OFFICER in the Air Ministry Scientific Research Pool—The Chief Superintendent, Royal Aircraft Establishment, South Farnborough, Hants. (December 17).

LECTURER IN ELECTRICAL ENGINEERING AND MATHEMATICS in the Aston Technical College, Whitehead Road, Birmingham, 6—The Principal (December 18).

LECTURER IN MECHANICAL ENGINEERING in the Oxford School of Technology, Art and Commerce—The Chief Education Officer, City Education Office, Oxford (December 20).

JUNIOR ECONOMISTS to the Ministry of Agriculture and Fisheries, 10 Whitehall Place, S.W.1—The Secretary (January 7).

LECTURER IN CHEMISTRY in the Rotherham College of Technology and Art—The Director of Education, Education Offices, Rotherham.