

## Societies and Academies.

## LONDON.

Linnean Society, Jan. 8.—E. J. Salisbury: A study of *Ranunculus parviflorus* L., with special reference to its morphology and ecology. The floral structure has been studied in its entirety in 725 flowers, and in a considerably larger number with respect to special features. The most frequent number of parts in the flower as a whole is 26 (222 examples). This, with other observations, leads to the conclusion that the total number of parts is a number one less than a multiple of three. The structure of the sepals and their variation indicates their origin from leaves, and thus the sepal is the equivalent of the leaf-base. The staminodal nature of the petals is clearly indicated. The petals attain maturity after the stamens, which may be associated with their, phylogenetically, more recent origin. The structures of various tissues all suggest a plant of damp rather than dry habitats. This is in conformity with the 'atlantic' type of distribution of the species and its southern habitats. Experimental cultures show that the species does not grow so well on dry sandy or calcareous soils as on moist loam.

## PARIS.

Academy of Sciences, Dec. 1.—The president announced the death of René Blondlot, *Correspondant* for the Section of General Physics.—P. Villard: The reduction of the oxygen compounds of phosphorus by hydrogen. Phosphoric anhydride and hydrogen commence to react at 700° C., and at about 900° C. both red and yellow phosphorus can be collected. Phosphorus is similarly produced by the action of hydrogen upon sodium, barium, and calcium pyrophosphates.—J. Costantin and P. Lebard: Experimental cultures of healthy and degenerated potatoes in the mountains and in the plains. The experiments described once more prove the difficulty of procuring healthy tubers working at random and without method. Seed potatoes raised in the mountains will propagate disease if the pathological state is not taken into account. The superiority, if it exists, will be shown only if healthy varieties are used.—Jakob Eriksson was elected *Correspondant* for the Section of Rural Economy in succession to the late M. Neumann.—Bertrand Gambier: Anallagmatic invariants of three circles.—Robert Forrer and A. Hoffmann: The splitting up of the Curie points of nickel. The observations described can be interpreted by assuming the existence of two ferromagnetic substances in nickel, each with its own Curie point.—Lucien Amy: The examination of a metal for foreign elements by spectrum analysis. The modification proposed gives a marked increase in strength to the lines of magnesium, calcium, and carbon.—R. Barthélemy: A system of television, including, in particular, an automatic arrangement for synchronisation and setting in phase.—E. Darmois and J. Cessac: Study of solutions of tartrates in fused calcium chloride,  $\text{CaCl}_2 + 6\text{H}_2\text{O}$ .—Mme. P. Curie: The relation between the emission of long-range  $\alpha$ -rays and of  $\gamma$ -rays. The theoretical explanation suggested, although not in good agreement with experiment, may still be of service. New researches are required to determine more accurately the range of the  $\alpha$ -rays and the existence and intensity of the groups of  $\gamma$ -rays intervening.—J. and J. F. Thovert: The utilisation of photo-electric cells with glass envelope for researches on radiations of very short wave-length. The glass is coated with a layer of vaseline, gelatine, or collodion with which is incorporated a fluorescent substance.—P. Chevenard and A. Portevin: The mechanism of the reheating of martensite.—F.

Bourion and E. Rouyer: The cryoscopic study of paraldehyde in solutions of sodium chloride and barium chloride.—A. Mavrodin: The action of phenylmagnesium bromide on ethyl diethylcyanacetate.—R. Brunshwig and L. Jacqué: The formation of gums in petrols. The colour acquired by a benzol on keeping is not a measure of the gum formation. Gum is formed in benzol by the combined action of light and air.—Octave Mengel: Movements of the Quaternary in the Mediterranean Pyrenees.—P. Gavaudan: Some vital observations concerning the evolution of the vacuole during spermatogenesis of the Characeæ.—N. Löwenthal: The evolution of the white blood corpuscles in vertebrates.—René Fabre and Henri Simonnet: Contribution to the study of the phenomena of oxido-reduction. Researches on beer yeast. The influence of desiccation. The experiments with beer yeast confirm those made with hepatic tissue: the hydrosulphide derivatives can only be freed from combination as the result of a traumatism which causes the death of the cell.—Mlle. Catherine Veil and Adalbert Van Bogaert: The two heart chronaxies measured selectively according to the direction of the electric current.—H. Laugier, W. Libersohn, and B. Néoussikine: The variations of chronaxy as a function of the position in man.—Régnier and Lespes: The existence of a summer generation in the pilgrim locust, *Schistocerca gregaria*.—L. Mercier: A new type of cancer of the lung in mice. Heredity and grafting.—E. Brumpt: Latent parasitism of *Ixodiphagus caucurtei* in gorged larvæ and fasting nymphs of various Ixodes (*Ixodes ricinus* and *Rhipicephalus sanguineus*).—Georges Fontes and Lucien Thivolle: Tryptophane and histidine are hæmatogen amino acids.—Mlle. S. Mouchet: The formation of the non-pedunculated spermatophores of the decapod Crustaceans.—C. N. Dawydoff: The true nature of *Dogelia malayana*.—Mlle. Odette Tuzet: The fertilisation of the silica sponge *Cliona viridis*.—Maurice Marie Janot and Jean Laurin: Bulbs of *Allium cepa* and hyperglycæmia.

## CAPE TOWN.

Royal Society of South Africa, Oct. 15.—E. Reuning: A contribution to the geology of the western edge of Bushmanland. There were morphological conditions on the edge of the plateau immediately anterior to the time of the melting Dwyka ice which, after the subsequent denudation of the Karroo sediments, were re-established, and they still form the major part of the morphological structure of this region. From the time of the oldest determined sediment of the post-Kimberlite period, a practically complete chain of events up to the present is recognisable.—S. H. Haughton: On a collection of fossil frogs from the clays at Banke, Namaqualand. The specimens are part of a large collection discovered in the shales encountered by Dr. Reuning when sinking a shaft on the so-called 'Arnot' pipe on Banke, Namaqualand. There are a number of almost complete skeletons of a fossil frog, to which the name *Eoænopoides reuningi* is given. A series of stages is described which strengthens the conclusions drawn from living Anura that the whole urostyle is the result of the fusion of a number of vertebræ. Evidence as to the age of the clays containing the fossils is almost entirely circumstantial; they must be at least early Tertiary and may be contemporaneous with, or slightly later than, the Dinosaur-bearing beds of Kangnas, 40 miles to the north.—M. R. Levyns: Note on some recent experiments on the germinating capacity of Rhenoster seed. Germination tests have been carried out annually since 1925. It has been shown previously that seed which refuses to germinate at the time of shedding



will germinate well a year later. Temperatures during the resting period may play an important part in regulating capacity of the seed for germination.—E. Reuning: The Pomona quartzite and oyster horizon on the west coast of South Africa north of the Oliphants River mouth. Ancient phyllites are planed off and covered by a series of deposits which consist of a fossiliferous grit with shark's teeth at the base, followed by a strongly silicified sand and grit passing up into calcified and partly silicified clays. Lying unconformably upon these sands and clays—the equivalent of the Pomona quartzite—are marine deposits, divided into the Main Oyster-horizon below and the *Donax rogersi* beds above. Above these is a terrestrial cover of sand, which has been formed in a discontinuous cycle.—T. Levitt: A report on the Cape Flats femur. A detailed study of the thigh-bone found in a sand quarry on the Cape Flats, in the same circumstances as a skull which has proved to be decidedly primitive. The femur shows primitive human and even simian characters, and belonged to an individual appreciably different from any of the existing human types in Africa and definitely low in the human scale. This finding corresponds to that arrived at independently for the skull.

CRACOW.

Polish Academy of Science and Letters, Oct. 6.—Georges Bouligand: Some applications of the theory of ensembles to infinitesimal geometry.—Ladislas Natanson: Certain theorems associated with Fermat's principle.—W. Swietoslowski: A differential boiling point apparatus furnished with a fractionating column and its application. This apparatus is specially applicable to the study of the purity of liquids, either pure substances or azeotropic and eutectic mixtures, and has been designed to handle small quantities of liquids. The determination of the amount of water present in an acetone-carbon disulphide azeotropic mixture is given as an example.—J. Kozak and L. Musial: The action of hydantoin on o-nitrobenzaldehyde.—J. Nowak: Remarks on the age of the magmatic rocks of the uncovered layers of Cieszyn.—J. Zerndt: Megaspores arising from a layer situated at a depth of a hundred metres at Libiqz (Stephanian).—Z. Grodzinski: The development of the blood vessels in the fore foot of the tortoise (*Emys orbicularis*).

Official Publications Received.

BRITISH.

Records of the Geological Survey of India. Vol. 64: Quinquennial Review of the Mineral Production of India for the Years 1924 to 1928. By the Director and Senior Officers of the Geological Survey of India. Pp. viii+446+xvii+6 plates. (Calcutta: Government of India Central Publication Branch.) 9.6 rupees; 15s. 6d.  
Records of the Indian Museum. Vol. 31, Appendix: List of Literature referring to Indian Zoology (excluding Insecta) received in Calcutta during the Year 1929. Pp. xx. 5 annas; 6d. Vol. 32, Part 2. Pp. 65-214+plates 2-7. 2.12 rupees; 5s. Vol. 32, Part 3. Pp. 215-356+plate 8. 2.12 rupees; 5s. (Calcutta: Government of India Central Publication Branch.)  
Memoirs of the Indian Museum. Vol. 9, No. 5: Revision of the Asiatic Species of the Genus *Corbicula*. 4: The Species of the Genus *Corbicula* from the Sunda Islands, the Celebes and New Guinea. By Dr. B. Prasad. Pp. 193-203+plates 24-26. 1.6 rupees; 2s. 3d. Vol. 11, No. 1: Studies on Indian Jassidae (Homoptera). Part 1: Introductory and Description of some New Genera and Species. By Hem Singh Pruthi. Pp. 63+5 plates. 5.8 rupees; 9s. (Calcutta: Government of India Central Publication Branch.)  
The Quarterly Journal of the Geological, Mining and Metallurgical Society of India. Vol. 2, No. 4, November. Pp. 133-179+9 plates. (Calcutta.) 6 rupees.  
Education, India. Education in India in 1927-28. Pp. iv+72. (Calcutta: Government of India Central Publication Branch.) 1.12 rupees; 3s.  
Malta. Annual Report on the Working of the Museum Department during 1929-1930. Pp. xviii. (Malta: Government Printing Office.)  
The Journal of the Institution of Electrical Engineers. Edited by P. F. Rowell. Vol. 69, No. 408, December. Pp. 120+xxxii. (London: E. and F. N. Spon, Ltd.) 10s. 6d.

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Proceedings of the Canadian Phytopathological Society. Inaugural Session, December 19 and 20, 1929. Pp. 61. (Ottawa.)  
Department of Scientific and Industrial Research. Report of the Fuel Research Board for the Year ended 31st March 1930; with Report of the Director of Fuel Research. Pp. viii+121+3 plates. (London: H.M. Stationery Office.) 2s. net.  
Proceedings of the Geologists' Association. Edited by A. K. Wells. Vol. 41, Part 4, 21st December. Pp. 363-445. (London: Edward Stanford, Ltd.) 5s.  
Journal of the Society for the Preservation of the Fauna of the Empire. New Series, Part 12. Pp. 66. (London.) 1s. 6d.  
Ninth Scientific Report on the Investigations of the Imperial Cancer Research Fund, under the direction of the Royal College of Physicians of London and of the Royal College of Surgeons of England. Pp. viii+156+39 plates. (London: Taylor and Francis.) 20s.  
Leeds University. Report to the Worshipful Company of Cloth-workers of the City of London of the Advisory Committee on the Departments of Textile Industries and Colour Chemistry and Dyeing, during the Session 1929-30. Pp. 13. (Leeds.)  
Department of Scientific and Industrial Research. Building Science Abstracts. Vol. 3 (New Series), No. 11, November. Abstracts Nos. 2039-2182. Pp. 379-409. (London: H.M. Stationery Office.) 9d. net.

FOREIGN.

Journal of the Faculty of Agriculture, Hokkaido Imperial University, Sapporo, Japan. Vol. 27, Part 2: Das Ausflocken animalischer Eiweissstoffe, von Georg Grasser: Über gerbende Stoffe und ihre Beurteilung, Untersuchungen über die tierische Haut, Untersuchungen über Gelatine und Haut, Beeinflussung der Metallsalz-Gelatine-Fällung durch Zusatz von Neutralsalzen, Refraktometrische Untersuchung des Chromosaren-Reduktion, von Georg Grasser und Hiroshi Ohoki; Gerbereichemische Untersuchung von Chromosalzen, Kombinationswirkung zweier Gerbstoffe gegenüber Gelatine und tierische Haut, ein Beitrag zur chemischen Erforschung der Kombinationsgerbung, von Georg Grasser und Masatake Ichise. Pp. 227-348. Vol. 27, Part 3: Studies on the Ripening of Rice-Grains. By I. Tadokoro and M. Abe. Pp. 349-387. Vol. 29, Part 2: Die Apoderinen aus dem japanischen Reich. Von H. Kono. Pp. 37-83+Tafeln 5-6. (Tokyo: Maruzen Co., Ltd.)  
Ministerio da Agricultura, Industria e Commercio: Observatorio Nacional do Rio de Janeiro. Boletim Sismologico do Observatorio Nacional, 1926 a 1929. Pp. 74. (Rio de Janeiro.)  
Annalen van de Sterrewacht te Leiden. Deel 15, Derde Stuk: Catalogue of 1172 Reference Stars in the Areas 2-115 of the Systematic Plan of Selected Areas. Observations of the Leiden Observatory. By C. H. Hins and J. J. Raimond, Jr. Pp. 41. (Haarlem: Joh. Enschedé en Zonen.)  
Methods and Problems of Medical Education (Eighteenth Series). Pp. iv+329. (New York City: The Rockefeller Foundation.)  
U.S. Department of Agriculture: Weather Bureau. Instructions to Marine Meteorological Observers. Fifth edition. (W.B. No. 991.) Pp. viii+80+8 plates. (Washington, D.C.: Government Printing Office.) 25 cents.  
Japanese Journal of Geology and Geography: Transactions and Abstracts. Vol. 8, Nos. 1 and 2, September. Pp. iii+112+11. (Tokyo: National Research Council of Japan.)  
University of California Publications in Zoology. Vol. 35: Vertebrate Natural History of a Section of Northern California through the Lassen Peak Region. (Contribution from the Museum of Vertebrate Zoology of the University of California.) By Joseph Grinnell, Joseph Dixon and Joan M. Linsdale. Pp. v+594. (Berkeley, Calif.: University of California Press.)  
Transactions of the San Diego Society of Natural History. Vol. 6, No. 14: Four New Birds from Northwestern Mexico. By A. J. van Rossem. Pp. 213-226. Vol. 6, No. 15: A new Least Bittern from Sonora. By A. J. van Rossem. Pp. 227-228. (San Diego, Calif.)  
United States Department of Agriculture. Technical Bulletin No. 214: The Physical and Chemical Characteristics of certain American Peat Profiles. By Irvin C. Feustel and Horace G. Byers. Pp. 27. (Washington, D.C.: Government Printing Office.) 5 cents.

CATALOGUES.

Radiostolenm. Pp. 14. (London: The British Drug Houses, Ltd.)  
Lantern Slides, illustrating Zoology, Botany, Geology, Astronomy, &c. (Catalogue B.) Fifth edition. Pp. 104. (Manchester: Platters and Garnett, Ltd.)  
Catalogue of Fine Chemical Products for Laboratory Use: including Organic and Inorganic Chemicals, Analytical Reagents, Standard Stains, Indicators. (January 1931.) Pp. 130. (London: The British Drug Houses, Ltd.)

Diary of Societies.

FRIDAY, JANUARY 16.

ROYAL SOCIETY OF MEDICINE (Balneology and Climatology Section) (Clinical Meeting at Red Cross Clinic for Rheumatism, Feto Place, N.W.1), at 5.  
PHYSICAL SOCIETY (at Imperial College of Science), at 5.—Dr. T. L. Ibbs and Dr. K. E. Grew: The Influence of Low Temperatures on the Thermal Diffusion Effect.—Dr. J. H. Vincent: Further Experiments on Magnetostriction Oscillators at Radio Frequencies.—S. Butterworth and F. D. Smith: The Equivalent Circuit of the Magnetostriction Oscillator.—Dr. L. C. Martin: The Theory of the Microscope.  
BRITISH INSTITUTE OF RADIOLOGY (at 32 Welbeck Street), at 5.—Medical Meeting.  
SOCIETY OF CHEMICAL INDUSTRY (Liverpool Section) (at University, Liverpool), at 6.—Prof. G. T. Morgan: Organic Syntheses facilitated by Pressure (Hurter Memorial Lecture).