

Academies and Societies.

Indian Academy of Sciences.

June 1935. SECTION A.—C. V. RAMAN: *On Iridescent Shells. Part III.—Body-Colours and Diffusion-Haloes.*—The paper describes a group of interesting optical phenomena which have their origin in the granular and colloidal structure of nacre and have no analogue in the optics of transparent stratified films. S. RAMA SWAMY: *X-ray Analysis of the Structure of Iridescent Shells.*—There is a significant and close correspondence between the results of the X-ray investigation and the diffraction haloes observed by Sir C. V. Raman. The nacreous layers of all the shells consist of aragonite crystals oriented with their C-axes normal to the surface. G. R. PARANJPE AND P. Y. DESHPANDE: *Dielectric Properties of Some Vegetable Oils.*—Castor, olive, sesame and coconut oils both in the pure state and in solutions in benzene have been studied. K. NEELAKANTAM, R. H. RAMACHANDRA RAO AND T. R. SESHADRI: *Pigments of Cotton Flowers. Part I.—Cambodia (Gossypium hirsutum).*—The composition of the pigment from the flower petals varies with the variety, locality and with the season. N. B. BHATT: *High Frequency Spectrum of Mercury Vapour.*—In the feeble blue discharge conditions are more favourable for bringing out the spark lines and some higher members of the arc lines both of which are absent in the high excitation spectrum. T. S. WHEELER: *The Electrostatic Potential of a Crystal of the Cuprite type.*—A simple method for the calculation of the potential of cubic crystal lattices has been applied to the calculation of the electrostatic potential of cuprite. R. S. KRISHNAN: *Molecular Clustering in Binary Liquid Mixtures.*—Molecular clusters exist not only at the critical solution temperature but also at temperatures considerably removed from it. S. SASTRY: *On Sums of Powers.* S. CHOWLA: *A Theorem on Sums of Powers with Applications to the Additive Theory of Numbers (III).* K. RANGASWAMI: *The Theory of Normals to a Quadric in Hyperspace.* D. D. KOSAMBI: *Homogeneous Metrics.* B. VENKATESACHAR AND L. SIBAIYA: *Platinum Isotopes and Their Nuclear Spin.*—These results are obtained from an examination of the hyperfine structure of some ten lines in the arc spectrum of platinum.

SECTION B.—N. N. DASTUR, (MISS) R. KARNAD, B. N. SASTRI AND A. VENKATASUBBAN: *Estimation of Urea.*—A simple titrimetric method for the estimation of urea, consisting in the preliminary hydrolysis by urease and subsequent titration of the ammonium carbonate produced by standard alcoholic HCl in presence of acetone, has been described. G. NARASIMHA MURTHY AND V. SUBRAHMANYAN: *Investigations on the Rôle of Organic Matter in Plant Nutrition. Part VII. Economy of Carbon during Decomposition of Cane Molasses in the Swamp Soil.*—A part of the added organic matter passes into the soil sediment and the rest with the supernatant. During the puddling and flooding processes almost the entire quantity of the added organic matter is washed off by the water. S. C. VERMA: *Studies on the Indian Species of the Genus Echinostomus, Part I. and on an Allied New Genus Episthochasmus.*—The presence of a chambered excretory bladder in some Echinostomatid genera is reported for the first time. A new genus *Episthochasmus* is created from a new species of parasitic Echinostomatid

from the common dog of Calcutta. The generic diagnosis of the new genus and the new species *E. caninum* is given. G. N. RANGASWAMI AYYANGAR AND KUNHI KRISHNAN NAMBIAR: *Studies in Dolichos lablab (Roxb.) and (L.).—The Indian Field and Garden Bean. I.*—The inheritance of the characters of the bean has been studied and reported. B. A. SUNDARA IYENGAR AND V. SUBRAHMANYAN: *Investigations on the Rôle of Organic Matter in Plant Nutrition. Part VIII. Influence of Fermentable Organic Matter on the Transformations of Iron in the Swamp Soil.*—Fairly large quantities of ferrous iron were brought into solution on adding commercial glucose to peaty and laterite soils. The ferrous iron is largely present in combination with the organic acids produced during fermentation. VISHWAMBHAR PURI AND BAHADUR SINGH: *Studies in the Family Amaranthaceae. I. The Life-History of Digera arvensis Forsk.* B. N. SINGH AND K. KUMAR: *The Influence of Partial Pressure of Carbon Dioxide on Photosynthetic Efficiency.*—The nature of the relationship between the supply of carbon dioxide and the rate of assimilation by radish leaves, has been studied. G. S. SIDDAPPA AND V. SUBRAHMANYAN: *Investigations on the Rôle of Organic Matter in Plant Nutrition. Part IX. Oxidation of Organic Matter in the Soil and Plant Assimilation.*—Treatment of soils with minute quantities of chemical oxidisers such as permanganate, hydrogen peroxide or ferric oxide helps to increase the availability of the organic matter of the soil.

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April 1934. PANCHANAN NEOGI AND (Late) GOPAL KRISHNA MUKHERJEE: *A New Method of Preparing Organo-Mercury Compounds of Phenol and Aromatic Amines, Part II.* K. MADHUSUDANAN PANDALAI: *The "Electron Transfer" Theory Applied to the Reactions in the (Photographic) Developing Bath.* MOHAN SINGH: *Studies on Optical Activity and Chemical Constitution. Part I. Optically active Bases and Acids.* P. PARAMESWARAN PILLAY: *On Anacardic Acid, Part I. Anacardic Acid and Tetrahydro-anacardic Acid.* P. PARAMESWARAN PILLAY: *On Anacardic Acid, Part II.—The Construction of Tetrahydro-anacardic Acid.* BASHIR AHMAD, RANCHODJI DAJIBHAI DESAI AND ROBERT FERGUS HUNTER: *The Formation and Stability of Polybromide Derivatives of Heterocyclic Compounds. Part V.—The Bromination of some 1-Aryl-imino-3-aryl-4-keto-5-methyl-tetra-hydrothiazoles and their 5 : 5-dimethyl Homologues and some Remarks on the Theory of Singlet Linkages.* PHULDEO SAHAY VARMA AND K. S. VENKATARAMAN: *Halogenation. Part X.—Preparation of Mixed Halogen Derivatives of Xylenes.* SUSIL KUMAR RAY: *Parachor and Chemical Constitution. Part II.—The Structure of the Triphenylmethane Dyes.* JAGARAJ BEHARI LAL AND SIKHIBUSHAN DUTT: *A Yellow Colouring Matter from the weed of Adina cordifolia. Hook.* JAGARAJ BEHARI LAL AND SIKHIBUSHAN DUTT: *Chemical Examination of Butea frondosa Flowers.*—Isolation of a Crystalline Glucoside of Butin. B. K. MENON AND D. H. PEACOCK: *The Rates of Racemisation of Acids of the type $R_1(R_2)-CH_2COOH$.* K. VENKATA GIRI AND J. G. SHRIKHANDI: *Studies on Salt Activation. Part I.—Influence of Neutral Salts on the Enzyme Hydrolysis of Starch.*