

## ACADEMIES AND SOCIETIES

## Indian Academy of Sciences:

January 1940. SECTION A.—B. POORNA-CHANDRA RAO: *Intensity of Raman lines in carbon tetrachloride*.—Assuming that the polarisability of carbon atom is negligible, the mean polarisability for  $\text{CCl}_4$  and the intensity of the Raman line corresponding to the total symmetric expansion have been calculated and found to agree satisfactorily with observations. S. S. PILLAI: *On  $m$  consecutive integers—I*. S. S. PILLAI: *Generalisation of a theorem of Mangoldt*. R. S. VARMA: *On the polynomial  $\pi_n(x)$* . N. V. SUBBA RAO AND T. R. SESHADRI: *Use of mercuric acetate in organic preparations—Part II. Some experiments on its use as an oxidising agent*.—It is found that progress of oxidation cannot be followed by weighing the mercurous acetate precipitated, as the solvent also undergoes oxidation. J. BHIMASENACHAR AND K. VENKATESWARLU: *Ultrasonic velocities and adiabatic compressibilities of some organic liquids*.—Fourteen organic liquids and the chief constituents of six essential oils have been measured. G. V. L. N. MURTY AND T. R. SESHADRI: *Raman effect and chemical constitution. Influence of constitutive and other factors on the double bonds in organic compounds—Part III. Effect of the benzyl group on the  $\text{C}=\text{O}$  bond in esters*.—The benzyl group resembles closely the alkyl groups in the influence on  $\text{C}=\text{O}$  frequency. M. W. CHILPUNKAR: *The distribution of temperature in the lower stratosphere*.—It is very probable that the rise of temperature above 18 m. observed in tropics is due to ozone. B. D. SAKSENA: *Raman spectrum and molecular association in formamide*.—Raman lines and their polarisations have been studied for formamide and its aqueous solutions at different temperatures. The N—H frequencies should spread out into a band on account of the six possibilities of co-ordination existing for the  $\text{NH}_2$  group. The molecules are largely polymers with some small percentage of monomers as well. S. BHAGAVANTAM: *Effect of crystal orientation on the Raman spectrum of calcite*.—Twelve spectrograms corresponding to different orientations have been studied. The observed results are satisfactorily explained by studying the selection rules in detail.

SECTION B.—(MISS) G. MAHADEVAN: *Preliminary observations on the structure of the uterus and the placenta of a few Indian Elasmobranchs*.—A detailed study of the placental features of Elasmobranchs. The material for study includes specimens of *Scoliodon sorrakowah*, *S. palasorrah*, *S. walbeehmi* and *Carcharinus dussumieri*. G. S. VERMA: *A new species of Bombardia (B. hyalina sp. nov.) occurring on dry twigs of Thunbergia grandiflora Roxb.*—The spores are hyaline and in mature condition consist of an oval head, a tail and two appendages, all of which are usually septate. S. M. DAS: *On Herdmania (Rhabdocynthia) ennurensis n. sp. (a new monascidian from Madras)*.—The new species is distinguished from other

existing species of *Herdmania* by the co-existence of the following characters: Body small and pear-shaped; atrial siphon enormously elongated, being almost equal to the length of the body; dorsal tubercle large, consisting of a double spiral; tentacles compound, in 3 alternating sizes and 24 in number; branchial sac with 7 folds on each side; 8–10 stigmata in each stigmatic area.

## Entomological Society of India:

November 29, 1939.—D. N. ROY: *On the life-history and sex-ratio of Chrysomya rufifacies, a kind of sheep blow fly*.—*Chrysomya rufifacies* Macq. (Diptera, Calliphoridae) is widely distributed in this country. The so-called "hairy" maggots of the species are semi-carnivorous, preying on the larvae, of other muscoid flies which breed in Carrion. They may even resort to cannibalism if other food is lacking.

Protein is essential for the development of eggs. Eggs are laid in batches. A first batch may contain between 153 and 386 eggs in laboratory-bred flies. The life-cycle occupies about nine days in summer. Contrary to Patton's opinion, the pharynx of the larva is provided with longitudinal ridges which are typically absent in carnivorous forms.

The most striking fact which was recorded was that the females of this species appear to be either male- or female-producing. Several batches of eggs from both laboratory-bred and wild flies were reared, always with the same result, namely, that the progeny consisted of members of one sex only. Two or three batches of eggs were obtained from some females and here too the sex of the progeny was the same in all batches. The results of some experimental matings indicate that the progeny of both sexes may be obtained when one male is mated to several females. This phenomenon, so far as could be ascertained, is unique among animals where biparental reproduction is the rule. *C. rufifacies* has not been cytologically investigated as yet, but even a plausible explanation is difficult to offer if it is remembered that mating is essential for oviposition. The phenomenon is also independent of food and season.

## Indian Chemical Society:

November 1939.—N. R. DHAR AND E. V. SESHACHARYULU: *Nitrogen fixation in soil not wholly a bacterial process*. S. MUKHERJEE AND N. P. DATTA: *Electrochemical properties of stearic acid hydrosol—Part I*. N. P. DATTA: *Electrochemical properties of stearic acid hydrosol—Part II*. MUHAMMAD QUDRAT-I-KHUDA, ASUTOSH MUKHERJEE AND SUBASH KUMAR GHOSH: *Studies on the essential oil from the Rhizome of Acorus calamus—Part I. Isolation and examination of Calamol*. B. CHATTERJEE: *The electrochemical properties of colloidal silicic acid—Part I. Interaction with bases*. B. CHATTERJEE: *The electrochemical properties of colloidal silicic acid—Part II. Interaction with Neutral salts*.