CENTENARIES

Rickman, John (1771–1840)

JOHN RICKMAN, a British statistician, was born at Newburn, 22 August 1771. He graduated in 1792 from Lincoln College and conducted for some time the *Commercial, agricultural and manufacturer's magazine.* In 1796 he wrote a paper on taking of a census of the population.

First Census Act

This paper went to the notice of Charles Abbot, the Speaker, who took him as his secretary and employed him in preparing the first census act, introduced in December 1800. He was also chosen to examine and digest the census returns of 1801, 1811, 1821 and 1831. His introduction to the *Population returns* is remarkable for the very able analysis which it contains of the general condition, changes and prospects of all classes of the population.

He also wrote upon life annuities in the *Medical Gazette.*

A Species in One

"You must see Rickman to know him, for he is a species in one. A new class" wrote Lamb about him on November 3, 1800. He was popular in the literary circle of London. He was so careless in dress as to have been taken by the press-gang for a common tramp but was greatly respected by his friends for his shrewd sense and wide knowledge. He became an F.R.S. in 1815 and he was elected an honorary member of the French Society of Statistics.

Rickman died of an affection of the throat 11 August 1840.

Maury, Francis Fontain (1840–1879)

FRANCIS FONTAIN MAURY, an American surgeon, was born near Danville and spent his boyhood on the farm where Dr. Ephraim McDowell invented and practised ovariotomy. Having graduated B.A. in 1860 he entered the medical department of the University of Virginia the same year. He became a graduate in medicine in 1862 and began to work in the Philadelphia general hospital. His private practice grew with unusual rapidity.

Notable Feats in Surgery

Here are some of his notable feats in surgery:—

1. Ligation of the common carotid and subclavian arteries for aortic aneurism;
2. first gastrotomy for relief of syphilitic stricture of the esophagus;
3. the first resection of a portion of the brachial plexus to relieve the pain in neuroma of the skin of the upper extremity;
4. plastic operation for extrophy of the bladder, using the flap from the perineum and scrotum; and
5. the first successful amputation of the hip joint in America.

Maury has been characterised "as a cool, dextrous, cautious surgeon, of sound judgment". He died 4 June 1870.

Perrine, Henry (1797–1840)

HENRY PERRINE, an American plant explorer, was born at Cranbury, 5 August 1797. Till 1827 he practised medicine and thereafter he became United States Consul at Campeche, Mexico.

Botanical Collections

During ten years of continuous residence in Mexico, Perrine made botanical collections which enriched the herbarium of the New York Botanical Garden.

Plant Explorer

In 1827 President John Quincy Adams caused a circular letter to be sent to consular officers to procure foreign plants of known or probable utility for cultivation in the United States. Perrin took the request very seriously and began to flood the government with detailed reports on fibrous plants.

Victim to His Own Enthusiasm

In 1838 the government approved of Perrin's suggestion to establish a tropical plant introduction station in extreme southern Florida. Perrin was granted land for the purpose; and he removed to the place and spent two years tending and extending the nurseries. Of all the tropical plants introduced by him sisal is the most noteworthy.

Perrin died at the hands of marauding Indians 7 August 1840.

S. R. Ranganathan.
University Library,
Madras.

"A long record of successful achievement in medical research stands to India's credit, particularly in the field of tropical disease" says the Public Health Commissioner with the Government of India in his Preliminary Report for the year 1939.

"As early as 1877", he points out, "Vandyke Carter discovered the causative organism of relapsing fever. Later came the demonstration by Ronald Ross of the role of the anopheline mosquito in the transmission of malaria. The monumental work of the Indian Plague Commission established the fundamental facts on which our present preventive campaign against the disease is based. In regard to Kala-azar, the causative organism was discovered by workers in India and an effective treatment was also elaborated in this country, which has converted a 95 per cent. fatality rate into an equally high rate of recovery. The latest contribution of Indian workers to medical research has been in connection with the nature of the true cholera organism, and this work has received warm appreciation from the Cholera Commission of the International Public Health Office at Paris."

SCIENCE NOTES AND NEWS

A Remarkable New Fish from Bombay.—The last number of the *Records of the Indian Museum* (42, pp. 379–423, June 1940) contains an article by Mr. C. V. Kulkarni, "On the Systematic Position, Structural Modifications, Bionomics and Development of a remarkable new family of Cyprinodont Fishes from the province of Bombay". The new fish was discovered accidentally in the backwaters along the coast of the Bombay Presidency. As this discovery is likely to throw considerable light on the relationships and evolution of the Toothed-Carps, the very careful account of the fish by Mr. Kulkarni is of very special importance.

The most significant point about the new fish is the possession by the male of a massive and highly complicated organ for the transference to the body of the female in the neighbourhood of the genital opening of spermatophores, a structure discovered for the first time among fishes. Though a similar male organ for the transference of sperms is found among a variety of American Top Minnows, its occurrence in an allied Killifish of the Asiatic Continent has been discovered for the first time. It is worthy of note that the author has not confined himself to a mere taxonomic description of the species, but has given as detailed an account as possible of its morphology, bionomics and development. In these respects it is a unique paper in which a taxonomic account of great importance is accompanied by full details of the life-history and development of the species.

The paper is divided into four parts, Systematic Account, Structural Modifications, Bionomics and Embryology including larval development. In the first part, the author has given reasons for assigning this fish to a new family and has indicated its position among the Cyprinodont fishes by giving an outline classification of the Order after the latest scheme suggested by Hubbs and Myers. The diagnosis of the new family is given and the species is described in detail. In the second part, the structure of the gonopodium is described; it is a highly complicated organ and the author seems to have taken considerable pains in elucidating the relationships of its component parts; this portion of the work is extremely valuable. Mr. Kulkarni also directs attention to the asymmetrical position of the genital opening, the presence of the genital pads and the absence of the right pelvic fin in females. Each peculiarity is fully explained and suitable arguments offered for its utility.

The section dealing with Bionomics contains an account of the author's observations on mating, liberation of sperms from the spermatophores and laying of eggs; these observations are of a very high order and deserve special notice. In the embryological studies of the species the author has brought together a mass of valuable information. Special mention may, however, be made of the study of the development of the gonopodium and its ultimate differentiation into a complicated organ found in the adult males. A useful comprehensive bibliography is given at the end. The paper is well illustrated with neat and suitable diagrams.

S. L. HORA.

Indian Vegetable Oils as Lubricants in Internal Combustion Engines.—Lubricating oil for use in internal combustion engines is mostly of mineral origin and India has hitherto been importing practically all her supplies of this essential material from abroad. Since the outbreak of war, severe restrictions have been imposed on the import of these oils and the appearance of Bulletin No. 18 of the *Industrial Research Bureau* on the "Utilization of Indian Vegetable Oils as Lubricants for Internal Combustion Engines" by J. S. Aggarwal and Lal C. Verman, is therefore very timely. The authors describe the results of preliminary experiments carried out by them on three important Indian Vegetable Oils, castor, groundnut and cotton seed. The chief defect which has hitherto stood in the way of vegetable oils being used as lubricants for internal combustion engines is the comparative ease with which they undergo oxidation at the high temperatures they are subjected to in the engine. This oxidation results in increase of (1) viscosity, (2) acid value and (3) carbon residue; all these three factors interfering with the efficient working of the engine and leading to corrosion and other troubles. Accelerated oxidation test in the presence of iron according to a modification of the Air Ministry technique have been carried out and the increase in viscosity, acid value and carbon residue measured, both with and without stabilizers. The results show that castor oil is far superior to the other two oils. Some of the stabilizers tried such as α-naphthol and hydroquinone are fairly effective in minimizing oxidation, but even castor oil, using the best stabilizer, is very much inferior to the high grade mineral lubricating oils on the market. It is necessary, however, that a lot more of work should be done and the investigation can only be regarded as a preliminary one. The results of engine trials with stabilized vegetable oils are to form the subject-matter of future papers and they will be awaited with great interest as they will be the final criterion on which the value of these vegetable oils as lubricants can be judged.

C. V.

Phosphate Manuring on Lateritic Soils.—The peculiarity of the red lateritic soils on account of their very high content of iron and alumina and their consequent ability to render insoluble and therefore non-available phosphates existing naturally in the soil and that which may be applied in a soluble form as fertiliser, constitutes a difficult problem in judging the quantity and mode of application of phosphate manures on such soils. Their content of iron and alumina is so great that they can immobilise soluble phosphates running in to even a hundred tons per acre, compared with which