

SCIENCE NOTES AND NEWS

Necator americanus sp. in an Indian Pangolin

Shri S. N. Sharma, Department of Zoology and Entomology, Assam Agricultural College, Jorhat, reports the occurrence of *Necator americanus* sp. in the intestine of an Indian Pangolin (*Manis aurita*). Several workers have already reported this species in different wild and domestic animals, but this is the first authentic record of the species occurring in this animal. The worms slightly differ in structure from the *Necator americanus* reported by Stiles (1902-03), in man and primate.

Gas Diodes for Computers

With the increasing use of electronic digital computers, complex problems have been presented which require for their solution high-speed "memories" so large that present-day costs make them economically impractical. The cold-cathode gas diode, such as the simple neon glow lamp, offers possibilities for low-cost high-speed memories, once the inherent disadvantages of the tubes are overcome. A. W. Holt and D. C. Friedman of the National Bureau of Standards have undertaken a study of these visual-indicating tubes for memory and indicator circuits. The result has been a number of circuits that provide an approach to reducing the cost of digital computer memories from the present dollar per bit (binary digit) to about 10 cents.

Fat Accumulation in the Periportal Regions of the Liver

Interest in the distribution of fat within the liver lobule has been stimulated by the observation that in the widespread disease kwashiorkor the stainable fat is found predominantly in the periportal regions.

In this connection, Prof. Best and colleagues report in a recent issue of the *British Medical Journal* (1955, June 18, p. 1439) that, whereas animals receiving choline-deficient diets developed fat accumulation round the central lobular veins, animals receiving protein-deficient diets developed fat accumulation in the periportal regions. Periportal accumulation of fat was not dispersed by adding choline to the diet. The different sites of fat accumulation were clearly defined only in the early stages of deficiency. When either choline or protein had been deficient for a long time, fat accumulation extended throughout the whole lobule.

The significance of these findings is not clear, though Best and his colleagues think that accumulation of periportal fat when the diet is deficient in protein may be due to qualitative and quantitative alterations in the amino acids present. They also noted a transient increase in periportal fat when an animal was transferred from a diet low in protein to one containing adequate quantities of protein and choline.

Synthesis of Testosterone

The first direct synthesis of testosterone from simple coal-tar products has been accomplished by a group of chemists at the University of Wisconsin. The research that led to the synthesis was carried out by W. S. Johnson and a colleague, Raphael Pappo, visiting Lecturer in Chemistry from the Weizmann Institute, Israel, in co-operation with Brian Bannister and E. J. Pike. The project is part of a broad research program at Wisconsin for the synthesis of hormones involved in sex, pregnancy, and the life-maintenance substances produced by the adrenal glands.

The only practical method to date for synthesizing testosterone has required that a complex natural steroid such as cholesterol be used as a starting point. Johnson and Pappo synthesized the sex hormone from the coal-tar product 1, 6-dimethoxynaphthalene. However, they have emphasized that the method is not practical in its present form.

Amino Acids in Fossils

Amino acids have been found in fossils in studies at the Geophysical Laboratory of the Carnegie Institution of Washington. Philip H. Abelson has shown that the occurrence of proteins in hard parts of recent creatures is widespread, and that under favourable conditions of preservation fossils may contain amino acids after as long as 360 million years. Among the compounds found are alanine, glycine, valine, leucine, aspartic acid, and glutamic acid. In studying thermal stabilities Abelson found that the rate of degradation of amino acids is sharply increased with increasing temperature, suggesting the possibility of a recording geological thermometer for sediments.

International Computation Centre

The UNESCO is sponsoring the establishment of an International Computation Centre in Rome. The projected centre, a laboratory equipped with the best available mechanical

devices for calculation, will have three main functions: scientific research, training of experts through a system of fellowships, and the provision of services to organizations and persons who, under certain conditions, will be authorized to request calculations required to solve unusually complex scientific, technical, administrative, or financial problems.

Palaeontological Society of India

With a view to organise and promote advanced studies and research in the field of palaeontology and allied sciences including prehistoric archæology, a "Palaeontological Society of India" has recently been founded with Dr. M. R. Sahnî, Palaeontologist, Geological Survey of India, as its first President. The Society will endeavour to organise a permanent Field Survey of expeditions to selected areas for the collection of material for research on special topics of pure and applied palaeontology, and will eventually try to build up an up-to-date All-India Palaeontological Library and Museum.

An important part of the Society's activities will be the publication of a Journal containing authoritative papers on the pure and applied aspects of palaeontology and allied sciences, with special reference to India; Prof. L. Rama Rao of Bangalore, former Professor and Head of the Department of Geology in the Mysore University, will be its Chief Editor. The Inaugural Number of the Journal which is to be published shortly will contain more than 25 papers contributed by leading workers from India, U.K., U.S.A., Europe, S. Africa, Ceylon and Australia, on diverse aspects of current palaeontological research.

Award of Research Degree

The University of Bombay has awarded the Ph.D. Degree in Chemistry to Sri. R. Rama Rao for his thesis entitled "Biochemical Studies on Experimental Malaria (Avian—*P. gallinaceum*)".

The University of Poona has awarded the Ph.D. Degree in Agricultural Meteorology to Shri Klaus Raschke, for his thesis entitled "A Method for the Micrometeorological Measurement of the Energy-Budget of a Leaf *in situ*".

The University of Nagpur has awarded the Ph.D. Degree in Botany to Shri V. R. Dnyanagar for his thesis entitled "Embryological Studies in the Leguminosæ".

Plant Ecology in Arid and Semi-Arid Regions

Reports on plant life in ten of the world's arid and semi-arid regions are presented in

"Plant Ecology, Reviews of Research", a new publication in UNESCO's series on arid zone research (Price \$7.00). The reports are presented in one bilingual volume in French and English. Each report is accompanied by a bibliography and a synopsis in the other language. The wide geographical range as well as the suggestions for future investigations make this publication of great value to ecologists and others who have to deal with arid and semi-arid regions.

Symposium on Alloy and Special Steels

A symposium on 'Production, Properties and Applications of Alloy and Special Steels' will be held on February 1st, 2nd and 3rd, 1956, under the auspices of the National Metallurgical Laboratory at Jamshedpur. The objects of the symposium will be four-fold: (i) to draw attention to the usefulness of stepping up this industry along scientific lines, (ii) to indicate to the engineering industries, such as, automobile, railway, defence, aircraft, chemical industries, the need to rationalise demands and fall in with specifications of alloy steels which can be made from Indian raw materials, (iii) to define satisfactory grades of alloy steels based on such alloying elements as are indigenously available in India, and (iv) to discuss special equipment and practice required in steelworks for producing these steels and the materials, including ferro-alloys, involved in their production.

Invitations are being extended to technologists and scientists here and abroad to contribute technical papers for the proposed symposium. Equipment for the projection of slides and drawings will be available. Further particulars can be had from the Director, National Metallurgical Laboratory, Jamshedpur.

International Committee of Zoologists

A Nine-man International Committee of Zoologists has been set up by the International Union of Biological Sciences to co-ordinate zoological teaching and research with Prof. R. Sparck (Denmark), Prof. J. G. Baer (Switzerland), Dr. C. F. A. Pantin (England), Dr. M. B. Lal (India), Prof. P. Drach (France), Prof. U. d'Ancona (Italy), Prof. W. A. Ankel (Germany), Prof. E. Le Loup (Belgium), Dr. Ernst Mayr (U.S.A.) as Members.

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