

Standard Methods for Testing Petroleum and its Products

Tenth edition. Pp. lvi+660. (London: Institute of Petroleum, 1949.) 31s. 6d.

THE Institute of Petroleum is to be congratulated on the silver jubilee of this essential and now hardy annual, the original edition of which was published twenty-five years ago. When this tenth edition is compared with the previous (1948) edition, we find a number of changes, chief of which are the introduction of three new methods: an engine method of testing heavy-duty lubricants in relation to ring-sticking, wear and deposit accumulation; a method for research octane number of motor fuels; and a method for assessing the corrosive tendencies of cutting-oils in contact with cast iron.

Other methods have been amended as regards detail, particularly calorific value (now known as heat of combustion), distillation and viscosity. An important appendix (E) relates to a change it is proposed to make in future editions in regard to the "Precision Section". It has happened too often in the past, and in other "Standards" than this, that the terms 'repeatability' and 'reproducibility', as used to define 'precision', have been confused. What is now foreshadowed is that 'repeatability' of a method means the largest difference reasonably to be expected between duplicate results obtained by one operator using one set of apparatus in one laboratory *within a small interval of time* (my italics). The comment here is that the small interval of time must be defined, otherwise something is lacking in precision. 'Reproducibility' of a method is to be construed as the largest difference reasonably to be expected between single results obtained by two operators in different laboratories at widely different times. This latter is safe ground, providing counterpart samples are involved and 'time' determines no fundamental change in characteristics. Other standard-making bodies could well emulate this policy; let us clarify exactly what we mean by precision in all methods of test, irrespective of the nature of the materials concerned.

H. B. MILNER

The Birds of Tropical West Africa

With Special Reference to those of the Gambia, Sierra Leone, the Gold Coast and Nigeria. By Dr. David Armitage Bannerman. Vol. 7. Pp. xxxv+413+14 plates. (London: Crown Agents for the Colonies; Edinburgh: Oliver and Boyd, Ltd., 1949.) 55s.

DR. D. A. BANNERMAN is to be congratulated on having, with this volume, completed his systematic treatment of all the birds found in tropical West Africa. Only a volume of addenda has still to appear, this having been made necessary by the fact that publication has been spread over a period of twenty years, during which much further information on the subjects of the earlier volumes has accumulated.

Vol. 7 is entirely devoted to the weaver-birds. That a single family (plus one other species) should need so much space may seem surprising; but, in fact, nearly fifty genera and well over a hundred forms are found in the area. To give them their English names, they include weavers, bishops, whydahs, mannikins, negro-finches, seed-crackers, fire-finches, waxbills and others. In general, they are finch-like birds, often with brilliantly coloured plumage and sometimes with

very long tails; many of them are familiar in aviaries. The tit-weavers, with slender bills, must be the smallest birds in Africa; the largest member of the family is the giant-weaver of Sao Thome, some 8½ inches long.

The weaver-birds, of course, derive that name from the common habit of building beautifully woven pendant nests. In these, however, there is great diversity in pattern. Moreover, some species are solitary nesters and others build in large colonies—hundreds of nests on a single tree; in the extreme case the nests form a communal structure with connecting passages. The exceptions to the weaving habit include species which are cuckoo-like parasites upon others. Each species of the genus *Vidua* is parasitic upon a particular species in the genus *Estrilda*, belonging to the same family, and there is a remarkable parallelism between the plumage and mouth coloration of the young of the parasites and victims respectively. The aberrant cuckoo-weaver, on the other hand, is parasitic on the unrelated grass-warblers.

The production of the work, including the fine colour plates, maintains the high standard of the pre-war volumes.

A Source-Book of Biological Names and Terms

By Edmund C. Jaeger. Second edition. Pp. xxxv+287. (Springfield, Ill.: Charles C. Thomas; Oxford: Blackwell Scientific Publications, Ltd., 1950.) 32s. 6d. net.

HERE are arranged in alphabetical order well over twelve thousand elements from which present-day biological terms have been built up. Their Greek (transliterated into English), Latin or other origins are indicated, their meanings are concisely explained and many examples of their use in biological and other literature are given.

The three main types of names considered are: (1) generic names, usually derived from Greek stems; (2) specific names, generally derived from the Latin; (3) technical terms, derived from both these classical languages.

Students and teachers of biology should spend more time than they do in studying the meanings of the words and terms they use and their origin, for thus can they read real meaning into the words and eventually expedite and make more intelligible their reading of the technical literature. This book will help them to do so. Students and teachers would do well to possess a copy, and no biological library should be without it.

Gmelins Handbuch der anorganischen Chemie

Achte völlig neu bearbeitete Auflage. System-Nummer 68: Platin. Teil A, Lieferung 5: Die Legierungen der Platinmetalle; Ruthenium, Rhodium, Palladium. Pp. vii+533-718. (Clausthal-Zellerfeld: Gmelin-Verlag G.m.b.H., 1949.) 43 D. marks.

THE present volume of this well-known work deals, in the usual complete and detailed way, with the physical and mechanical properties of the alloys of ruthenium, rhodium and palladium. Some of these alloys are of technical interest. It begins at p. 533, so that earlier parts, not available to the reviewer, must have appeared. Those who are familiar with the general character of "Gmelin" will know how well the subjects are dealt with, and this part will have an interest to metallurgists as well as chemists.

J. R. P.