van den Bergh and Hyman[2] attribute the red fluorescence of teeth to the presence of a porphyrin, and Tiede and Chromse[3] ascribe red fluorescence in teeth to the presence of proteins, since they were able to duplicate the luminescence of natural teeth by heating apatite preparations with proteins.

Radley and Grant,[1] in their discussion of the fluorescence properties of human teeth do not mention the existence of phosphorescence. To the knowledge of the writer phosphorescence in living human teeth has not been previously noted.

In an apparently healthy twenty-year-old male medium green phosphorescence of several seconds duration was excited in both upper and lower teeth by short wave-length filtered (CG 986) ultraviolet radiation from a cold mercury-quartz lamp. Ultraviolet radiation of longer wave-lengths, *e.g.*, 3600 A.U., failed to excite this phenomenon in the same teeth. Green phosphorescence was also noted in the teeth of older persons.

It would be interesting to study the phosphorescence of teeth in relation to disease, deficiency of diet, poisoning and other conditions, since the action might provide a simple diagnostic measure for certain pathological states.

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SCIENTIFIC BOOKS

RECENT PUBLICATIONS OF THE BRITISH MUSEUM (NATURAL HISTORY)

SINCE the review of British Museum publications in SCIENCE, December 6, 1940, the following have come to hand:

John Smart. Instructions for Collectors, No. 4A. Insects. 1940. 164 pp. A very useful little illustrated manual, giving an account of the various groups of insects and the methods of collecting and preserving them. It is just the sort of book which will be useful to a beginner or amateur and it must be emphasized that those who make no pretense to profound scientific knowledge may nevertheless do very important work as collectors, if they will learn how to do the work and follow advice as to what to collect. It would have been a good thing if the author, in his introductory remarks, had cited some of the results of the work of amateur collectors, as he could so easily have done from his experience at the museum. In the chapter on "Collecting Apparatus and Methods," I am surprised to find no mention of gelatin capsules, so useful when collecting small insects in the field. One's first reaction, on receiving such a book in the midst of a tragic war, is to wonder why it should be issued at this time. Aside from the feeling that normal scientific work should be continued even in wartime as far as circumstances permit, along with other activities which help to keep us sane and hopeful, there are special reasons for promoting entomology under the present circumstances. During the last war important collections and studies were made in various countries, and the work on mosquitoes and lice, in particular, proved important in relation to the health of the armies. At the present time, men are stationed at various localities in Africa and Asia, where the insects are imperfectly known. Much time is spent in guarding rather than fighting, and it is a good thing to cultivate amateur scientific interests to prevent boredom and add to the joy of life. In Britain, also, there are groups of men all over the country, whose duty it is to watch and wait, always ready to meet any emergency that may arise, but most of the time with nothing particular to do. We have been much concerned to furnish reading matter for these groups, but in addition, amateur scientific interests are very helpful, and it is easy and inexpensive to collect insects. Among the smaller insects, many discoveries or original observations may be made even in Britain. There is still another service which entomology may render. Many persons who have been injured leave the hospitals partly cured, and there is a period, sometimes a long period, before they can resume their normal occupations. For such people arrangements have been made for instruction in the manual arts, such as bookbinding, but equally valuable is the development of a scientific hobby, which may be continued through life. Having all these matters in mind, we no longer feel that Dr. Smart's guide is superfluous, even in wartime.

Ruwenzori Expedition. Vol. II, No. 4—Coenosiinae, by F. D. Van Emden; No. 5. Empididae, by C. Garrett Jones. These two papers on African flies are of interest to specialists, but they also serve to emphasize what has been said above concerning collectors. In a series of Empididae collected, it was found that the great majority (39 species) consisted of previously unknown species. Only three, in fact, had previously been described. Most of the material was collected by Dr. F. W. Edwards, the master student of Diptera, whose recent death we so greatly deplore.

Great Barrier Reef Expedition. The Biology of Reef-Building Corals. By C. M. Yonge, July, 1940.

[2] A. H. van den Bergh and Hyman, *Konigkl. Akad. Wetensch. Amsterdam wisk. natk. Afd.*, 36: 1096, 1927.
[3] E. Tiede and H. Chromse, *Ber.*, 67B: 1988, 1934.

A very interesting, beautifully illustrated report, discussing the characteristics of coral reefs, nutrition, adaptations of reef-building corals, significances of the Zooxanthellae, effect of light on coral growth, reproduction and development, growth of corals, maintenance of reefs, form of coral reefs, distribution of reef-building corals and evolution of reef-building corals. To this is added an account of the appearance of living coral polyps, by Professor T. A. Stephenson.

This is the sort of book which should be in every university department of zoology. I have been especially struck by an observation, quoted from Hedley, concerning the effects of excessive rainfall on coral reefs in certain localities. It appears that between January 22 and 29, 1918, a total of 35.7 inches of rain fell at Bowen, Queensland, and this coincided with the full moon spring tides. A thick layer of fresh water floated far out on the surface of the sea. When the low tide fell, this surface water sank till the whole reef was immersed in it. Then every living thing that dwelt there—corals, worms, shell-fish and crabs—died immediately. Putrefaction from these enlarged the zone of destruction. This slaughter reached as deep as 10 feet below mean tide level. Crossland describes a similar devastation of corals at Tahiti during exceptional rainfall in January, 1926.

During the past spring, Santa Barbara and adjacent regions were visited by excessive rains, which from the nature of the slopes must have resulted in a great deal of fresh water pouring into the sea. There are no coral reefs, but we may wonder what may have been the effect on the plankton and on the animals of the littoral zone.

John Murray Expedition. Vol. II. No. 5. Chemical and Physical Investigations, by A. F. Mohamed, of the University of Cairo. The pH observations made in the waters of all oceans and seas until 1934 are reviewed, and the detailed observations made in the northwestern Indian Ocean are recorded, with a discussion of the effects of the hydrogen-ion concentration on the life in the sea.

Vol. VI, No. 8. Ostracoda, by H. Graham Cannon. An account of the comparatively few Ostracoda obtained, one of the species being new.

The Francis Walker types of Trichoptera in The British Museum. By Cornelius Betten (Cornell University) and Martin E. Mosely (British Museum). June, 1940. 248 pp. With a portrait of Walker and many illustrations in the text.

Francis Walker was responsible for sixty-eight little volumes published by the British Museum between 1844 and 1873. It is estimated that some 50,000 species of insects were catalogued as being in the collections of the museum, and very many were described as new. It will be readily understood that this work had to be done in a more or less superficial manner to cover so much ground, and later generations have condemned Walker because they could not make out his species from the brief descriptions. In the preface to the present volume it is stated that Walker's catalogues "are an example of the unwisdom of allowing the curatorial needs of museum work to outweigh its scientific standards." Yet it is only fair to recognize that nearly a hundred years ago taxonomic methods were poorly developed in comparison with those of to-day, and even in quite modern times very many species (especially of Lepidoptera) have been described in a manner which would hardly permit their recognition without specimens or illustrations. As the Walker types are nearly all in the British Museum, they are available for study, and the present volume gives a critical account of Walker's species of caddisflies. The treatment is full and exact; of Walker's 101 specific names, 78 are retained, two are found to be preoccupied, and 21 are synonyms. Most of the species are from North America, and the book will be invaluable to all students of American Trichoptera.

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SOCIETIES AND MEETINGS

THE SEVENTH ANNUAL WASHINGTON CONFERENCE OF THEORETICAL PHYSICS, MAY 22–24, 1941

TOPIC

THE topic of the Seventh Washington Conference of Theoretical Physics, May 22 to 24, 1941, was the theory of elementary particles. The elementary particles known at the present time are: The light-quantum; the electron; the proton; the neutron; the positron; the neutrino; and the meson. The rapid development of this field is illustrated by the fact that the last four of these particles were unknown before the last decade. The main subdivisions of the topics discussed at the conference were (1) elementary particles in cosmic rays, (2) elementary particles in nuclei and (3) field theory.

PARTICIPANTS

Sixteen physicists representing eleven universities were invited to act as conveners of the conference. Besides these, eighteen guest-physicists took part, representing twelve universities, government departments and private research organizations. In order to keep the group small enough to make possible