gested to a less congested area; but against this consideration must be set the fact that, generally speaking, a high birth-rate is accompanied by a high death-rate among infants and young children. By watching closely the ebb and flow of populations throughout the world the Health Section is gaining a new knowledge about the ebb and flow of disease. It is also gaining a new knowledge about those conditions which lead to international friction. "In less than twenty years," says the *Epidemiological Report*, "the pressure of population in the western and center parts of Europe will almost certainly have terminated."—*The London Times.*

SCIENTIFIC BOOKS

The Mosquitoes of the Americas. By HARRISON G. DYAR. The Carnegie Institution of Washington, 1928, Publication 387, 616 pp. of which 123 are printed as plates of illustrations.

THE taxonomic volumes of the four-volume monograph of "The Mosquitoes of North and Central America and the West Indies" were published by the Carnegie Institution of Washington in 1915 and 1917. In the eleven years since Volume IV appeared there has been great activity in work relating to mosquitoes, and large numbers of new forms have been described. The great bulk of this descriptive work has related to forms from other parts of the world. The U. S. National Museum has remained the center of the American work, and Dr. Dyar, of the museum, has written the present volume. He has found it possible to include South American forms; hence the title, "The Mosquitoes of the Americas."

The material additional to that studied in 1917 has been gained largely in North America, Panama and the north coast of South America. Some additional collecting has been done in the West Indies and in continental South America south of the Guianas. Dr. Dyar himself, during these years, has personally collected through Canada and the northwestern United States, making great additions. Workers in Panama have also contributed largely. Dr. Dyar states that now the great need is for original unworked collections from tropical America. It is hoped that the publication of this volume will encourage South Americans to take up this work.

It may seem strange that, in spite of the greatly increased geographic range of the present volume, the number of species included is but little greater than that described in the former work. This, of course, indicates the need for intensive studies all through the American tropics, and it should be pointed out that another reason for the unexpected smallness of the list is that Dr. Dyar found it necessary to make wholesale reductions in the specific names, especially in Culex and Wyeomyia. The volume includes 544 species, as against 380 in the former monograph. Dr. Dyar informs me that he has now in press a paper describing two additional species.

Although many specific names have been relegated to the synonymy, the genera remain comparatively unchanged. The author has included many subgenera based upon the structure of the male genitalia and has given these subgenera careful study from the point of view of relationship.

In the former volume only two tribes of the Culicinae were recognized. The present volume recognizes five tribes: namely, Anophelini, Uranotaeniini, Sabethini, Megarhinini and Culicini.

With regard to one of these tribes, the Sabethini, a curious situation arises. In the American fauna this group is well marked, but Edwards, of the British Museum of Natural History, contends that, taking the mosquitoes of the whole world into consideration, there does not exist at present a known character by which the Sabethini as a tribe can be recognized. Dr. Dyar really founds his tribe on a peculiar larval character which holds for the Americas, and thinks that it may yet be found reflected in some adult structure. That this character (the absence of a median ventral brush on the anal segment) is not due (as with many other larval structures) to some peculiar method of life in the larval stage, is shown by the fact that species of other groups having the same larval habitat, namely the confined spaces between leaves and bracts holding water, have not acquired even a trace of a similar characteristic.

It will be remembered that the authors of the earlier monograph introduced the rather radical novelty of separate synoptic tables for the male genitalia and for the larvae. In fact, Dyar's interest in mosquitoes was an outgrowth of his early efforts towards a larval classification. This idea, followed in the careful tables in the present volume, has really brought about the stability of the present classification of mosquitoes. Edwards, of the British Museum, through his own independent studies of a very different fauna, has come to practically the same conclusions. His sole divergent view now rests upon his non-acceptance of the Sabethini as a tribe. The harmony between London and Washington in regard to mosquitoes is now so complete that dreams of the past seem nightmares!

The same format and practically the same type and paper are used as in the four-volume monograph, and in fact this volume should really be considered as a

supplement to and a revision of the taxonomic portions of the former monograph.

It contains no plates so beautiful as those of the full-grown larvae, done by Frederick Knab, in the old monograph, but there are 123 plates showing the male hypopigium of different species and larval heads and larval anal segments and appendages. There must be seven or eight hundred independent drawings in all. Half of these are new and were made by Miss Eleanor T. Armstrong and Miss Mary C. Foley under Dr. Dyar's direction.

The volume is a very handsome one, and is bound to be of great use. The entomologists and sanitarians of all the Americas are very fortunate in that Dr. Dyar has been able to do this great work at this time. And all of us, including Dr. Dyar, have been fortunate in that the trustees of the Carnegie Institution of Washington have permitted its publication in such excellent shape. The warm interest of President John C. Merriam is doubtless largely responsible.

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REPORTS

THE NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

THE twenty-fourth annual New England Intercollegiate Geological Excursion was held in the vicinity of Boston, Massachusetts, October 12 and 13, under the leadership of Dr. Kirtley F. Mather. On Friday morning the excursionists studied the glacial geology south of Boston, devoting most of their time to the region about Scituate. Extensive workings by the Boston Sand and Gravel Company have exposed instructive sections, especially in the vicinity of the Greenbush Station. Here an older interpretation would place a recessional moraine, south from which an outwash plain was deposited. A more recent interpretation would postulate a lake lying southward from a stagnant ice-sheet and dammed by the ice to the north and east and by the hills to the south and west. The merits of these two hypotheses were debated in the field.

At the invitation of the Boston Sand and Gravel Company lunch was served at their club house near the Greenbush Station.

Friday afternoon the group was under the leadership of Dr. R. W. Sayles and Dr. Marland Billings. After a beautiful drive along the shore through the towns of Scituate, Cohasset, Hingham, Weymouth and Quincy, we came to Squantum. Here Dr. Sayles has studied the Squantum tillite for a number of years. His studies have recently become very important because of their relation to the Wegener hypothesis of floating continents.

Dr. Wegener has drawn a map of the world during the Permian period, rearranging the continents in such a way that the equator of that period would pass through New England. Supporters of his hypothesis have doubted the existence of glaciation at Squantum because it interfered with this hypothesis. The New England geologists were very glad of the opportunity to study this locality under the guidance of Dr. Sayles.

The evidence of glaciation shown by Dr. Sayles were (1) the tillite with characteristic lack of sorting and with occasional striated pebbles; (2) varved clays which have been studied under the microscope and have been demonstrated to be similar to the clays of Pleistocene lakes; (3) gliding planes within the clays which have mashed the clay layers and which were started, perhaps, by floating ice; (4) inclusions of blocks of the varved clays in the overlying sediments, indicating that they were solid enough to be broken up and moved by contemporaneous agents of erosion. Most of the geologists agreed that the evidence was very conclusive. There was a question whether the glaciation was local or regional.

After a strenuous day in the field the dinner at the Commander Hotel, Cambridge, was much appreciated. During the evening there was a conference at the Harvard Geological Museum. Greetings were sent Dr. William North Rice, who attended the first excursion in 1901 at Westfield, Mass., and has been present at most of the gatherings since that time. It was decided to hold the twenty-fifth excursion in the vicinity of Littleton, New Hampshire. Dr. Keith, of the United States Geological Survey, and Dr. Kirk Bryan, of Harvard University, gave a history of the geologic study of the Boston Basin and Dr. Marland Billings explained a recent map of the structure of the basin.

On Saturday morning there were busses awaiting us at the Agassiz Museum and the day was spent in the vicinity of Boston under the guidance of Drs. Bryan and Billings. Details necessary for the construction of a cross-section between Jamaica Plains and the Blue Hills, south of Boston, were studied. Dr. Billings believes that the key to the geologic structure of the Boston Basin lies in the presence of overthrust faults which have brought the basal complex of the Dedham granodiorite and its associated Mattapan volcanics into contact with the Cambridge slate, the uppermost member of the Boston Basin series.

The Boston Basin series consists of the basal Dedham group and Mattapan complex overlain by the Roxbury conglomerate, the Squantum tillite and the