fully-equipped laboratories and staffs, who should be "continually irrigating the profession from the springs of the pure sciences." In that way, or in another, the problem must be solved, if English medicine is to keep its unsurpassed position in the world.—The London *Times*.

SCIENTIFIC BOOKS

A Sketch of the Natural History of the District of Columbia, together with an Indexed Edition of the U. S. Geological Survey's 1917 Map of Washington and Vicinity. By W. L. McAtee. Bulletin of the Biological Society of Washington, No. 1, May, 1918, pp. 142, 5 maps.

Reliable information regarding the biology of restricted areas is, for many reasons, of much value far beyond its mere local significance. The capital city of our country has been fortunate during the past century in the many famous naturalists that have either resided or studied here. The present comprehensive though succinct account of biological aspects of the region about the city of Washington is therefore most acceptable. Its purpose is to present a brief biological history of the District of Columbia, to point out the best places for field study, and to furnish geographical assistance in locating them. Thus the bulletin falls naturally into three parts: (1) A historical sketch of the various branches of natural history in their relation to the District of Columbia; (2) an account of the distribution of life in the District of Columbia region; and (3) an index to the United States Geological Survey's 1917 map of Washington and vicinity.

The history of the biology of the District of Columbia, it is interesting to note, dates back, we are told in a brief introduction, to the year 1608, and the redoubtable Captain John Smith of Pocahontas fame was the first observer. A number of early authors on general subjects have references to the animals and plants of the region.

The first information regarding the botany is by Petiver in 1698, who published some notes on animals and plants sent him from Maryland. The first actual list of plants of the District of Columbia appeared in 1816, as a part of David Baillie Warden's "Chorographical and Statistical Description of the District of Columbia," and contained 142 species. A résumé of the progress of botanical study in the District of Columbia since that time down to the present shows a final list of 1,598 species, many of which have been described as new from local material. A short botanical bibliography includes the most important local publications.

The first insects from the District of Columbia were recorded in 1816 by Warden, but little was known of this group until 1859, when Baron Osten Sacken began the publication of his important articles on the insect fauna of the District. Many workers since his time have, like him, found the District of Columbia excellent collecting ground for insects, and the total list of species for the region is now very large, including 3,000 beetles alone. Many hundred species, chiefly diptera and hymenoptera, have been described from material collected near Washington. A partial bibliography, arranged according to orders and covering 16 pages, shows graphically the activity of local entomologists. Of other invertebrates there have been recorded from the District 90 species of mollusks, 308 species of spiders, 10 species of phalangids and 246 rotifers.

Fishes have here received more attention than any other group of vertebrates excepting birds, and the list of species now totals 94, several of which were described from specimens taken in the vicinity of Washington. The distribution of fishes in this region is made interesting by the fact that tidewater ends here, so that in addition to the freshwater fauna at least 26 species of salt-water fishes occur more or less regularly.

Of batrachians, 27 species are said to occur; and of reptiles, 36. The only poisonous snake at present extant is the copperhead, though the rattlesnake formerly lived in this region. As with the other groups, the account of reptiles and batrachians is followed by a short bibliography.

The birds of the District of Columbia have been more closely studied than any other group of vertebrates, and the present total comprises about 300 species and subspecies. The earliest list of the birds of the District of Columbia, consisting of 322 species, was published by David Baillie Warden in 1816. There are, however, scattered through the writings of earlier authors, many references to the birds of this region. A partial bibliography mentions the more important papers on the avifauna.

Of mammals there are now 41 species known from the vicinity of Washington, of which 3 were originally described from material collected here. It is of more than passing interest to note that within historic times the buffalo, elk, white-tailed deer and puma all lived about Washington.

A brief account of the history of early man in the District shows that the North American Indians inhabiting this region were of Algonquian stock, but all departed about the year 1700.

The most important part of this bulletin, at least from the standpoint of general biology, is the discussion under the "Distribution of Life in the District of Columbia Region," and particularly that relating to the piedmont plateau and coastal plain as faunal and floral provinces. The characteristics of the piedmont plateau and the coastal plain are explained, as is also the geological significance of the fall line separating them. The text-figure map showing the fall line and also the islands of coastal plain deposits within the piedmont plateau area is an illuminating addition to this discussion. The conclusion reached is that the fall line acts as a more or less definite faunal barrier, most so in the case of plants and insects. The substantiation of this statement, so far as the plants are concerned, is furnished in long lists of species restricted respectively to the piedmont plateau and to the coastal plain.

Fully as interesting from an ecological point of view is the discussion of the magnolia bogs about Washington in their relation to the pine barrens of New Jersey. The author seems conclusively to show that a large percentage of characteristic pine barren plants are present in these magnolia bogs (so called because the swamp magnolia [*Magnolia virginiana*] is the one plant never absent from them), and to reach the apparently sound conclusion that the absence of pine barrens in the District of Columbia region is due solely to the absence of extensive areas of suitable soil deposits. These magnolia bogs, by furnishing a habitat where the typical pine barren plants are relieved from competition with the ordinary vegetation of the district, serve to preserve the survivors of the plant waves that accompanied the successive depressions of the Atlantic Coast region.

An account is given also of the other types of collecting ground about Washington, with mention of localities where such are to be found, together with some of the more desirable plants and animals to be obtained at each.

A decidedly useful feature of this bulletin is a map of the District of Columbia and vicinity in four sheets, on which, by means of close cross index lines, the old collecting spots, archeological sites, and minor topographical details have been indicated, so far as it has been possible to ascertain them. An index of 23 pages furnishes a ready means of reference. The map and its index have apparently been prepared with exceedingly great care, and will prove a boon to any one who has occasion to work on the local natural history.

Mr. McAtee has brought together an astonishing amount of important, not to say interesting, information concerning the biota of the District of Columbia, and not only will his bulletin prove a mine of riches for the local student, but will, as well, be of value to all ecological investigators.

HARRY C. OBERHOLSER

SPECIAL ARTICLES

THE AMPHIBIOIDEI, A GROUP OF FISHES PROPOSED TO INCLUDE THE CROSSOPTERYGII AND THE DIPNEUSTI

THE typical fishes or Teleostomi (Osteichthyes) obviously form a monophyletic group,