

ANIMAL COMMUNITIES IN TEMPERATE NORTH AMERICA, as illustrated in the Chicago Region. By Victor E. Shelford, Instructor in Zoology in the University of Chicago. The University of Chicago Press. 380 pages. 8vo. cloth, \$3.22, postpaid.

Until the beginning of the present century the study of animal ecology can scarcely be regarded as having been an organized science, and, although much has since been written upon the subject, most of the literature deals with problems of a more or less specialized character, or with particular groups of forms or types of locality.

The present work is of an unusually broad scope, treating, as it does, practically all the important types of animal communities represented in the Chicago district, the total area investigated being somewhat more than 10,700 square miles. It is a work of great interest and importance to the entomologist, as well as the student of general ecology, as insects play a dominant part in practically all of the land and fresh-water animal communities.

The first four chapters form an introduction to the study of animal ecology in general and to that of animal communities in particular. Chapter I deals with the general subject of the struggle in nature, the effect of man's relation to nature and the production of secondary or man-made communities, as distinct from primary or primeval communities. In Chapter II the general subject of ecology is discussed. The author emphasizes the "inadvisability of attempting to organize ecology on the basis of structure, as structural changes resulting from stimulation by environment are rarely of advantage or disadvantage to the animal, and the structure of motile organisms is not readily modified by the environment." It is the activities of animals that form the basis for the organization of ecology, not the morphological characters of the species, which are ecologically of little or no significance. The subject of animal communities and biota is also discussed at some length and a classification of communities is given. The chapter concludes with a classified list of the chief animal communities of the area investigated.

In Chapter III an analysis is given of the factors that enter into the composition of the animal environment. This includes a