

further expedient to save bulk, the plates are printed on both sides of the leaf. It is a pity, however, that the manufacturers should not have used greater care in weeding out imperfectly registered plates, nor are the four new ones so well printed as the others.

For the purposes of the new edition, Dr. May has done a difficult task with considerable care, and has presented the reading public with an attractive volume of short sketches of eastern birds.—G. M. ALLEN.

**Niedrach and Rockwell's 'Birds of Denver.'**—The last comprehensive work on Colorado birds was that of Sclater in 1912, and the last local list for Denver was published in 1928. In the years that have since elapsed much new material has accumulated and many groups of birds have been more critically studied by Dr. Alfred M. Bailey and the authors at the Colorado Museum. This new list<sup>1</sup> comprises the birds known to occur within a radius of twenty-five miles of Denver and includes also the Denver Mountain Parks System, a short distance farther westward among the foothills of the Rocky Mountains, so that the area embraces an altitudinal range of almost a mile and a half, taking in the various life zones from Transition to Arctic-Alpine.

The introductory matter includes a sketch of the topography and a short account of the plant life of the successive zones with their characteristic birds. In another chapter the ornithological history of Colorado is briefly outlined. In the body of the work, the birds are taken up in the 'Check-list' order, giving for each the English and Latin names, the field marks, a statement of occurrence, and a paragraph of remarks, chiefly records of interest or notes on habits; finally there is an excellent bibliography and a thorough index. The many illustrations are largely from photographs of characteristic western birds and well exhibit the skillful work of Dr. A. M. Bailey and his associate Mr. Niedrach, both of whom have for a number of years cooperated in the careful study of the birds of the State. Including as it does a large number of typically western birds, the book forms an excellent field guide for visitors to this region, as well as a convenient summary of the local avifauna for the many active observers in this center.—G. M. ALLEN.

**Tinbergen's 'Behavior of the Snow Bunting in Spring'** is an outstanding field study<sup>2</sup> of this bird on its breeding grounds in southern Greenland. The author distinguishes nine successive stages in the progress of the breeding cycle, as follows: (1) the arrival of the males in flocks at a time depending on the weather conditions but averaging about March 21; the complete breeding dress is not attained until about mid-April. (2) The selection of a territory by the males and consequent breaking up of the flocks about a month later. During this stage the males daily spend a great part of the morning on the territory, singing, but often leave for foraging. (3) The arrival of the females in late April or early May. (4) The fourth period begins with the securing of a mate, who is attracted to the male by its song and display on the territory. The female is not yet ready for copulation; there is an increase in territory fighting between neighboring males, and the boundaries of territories undergo some shrinkage. Mated females drive off other females, but there is no intersexual fighting. (5) With the first coition the fifth period commences. The female's oestrus is marked by the carrying of nesting material to a selected site. (6) The female commences to lay eggs, for the nest is now ready. (7) With the

<sup>1</sup> Niedrach, Robert J., and Rockwell, Robert B. *The Birds of Denver and Mountain Parks*. 8vo, (6) + 196 pp., illustr., map; Colorado Mus. Nat. Hist., Popular Series, no. 5, 1939. \$1.25.

<sup>2</sup> Tinbergen, N. 'The Behavior of the Snow Bunting in Spring.' *Trans. Linn. Soc. New York*, 5: 1-95, 2 pls., text-figs., Oct. 1939.