



Fig. 25. James L. Peters, president of the American Ornithologists' Union and author of the "Check-list of Birds of the World."

In the diversified terrain of the West, birds of the same species frequently breed at different times at stations in the same latitude. A recurrent explanation of such phenomena is that some individuals nest first at lower elevations or in warmer localities and later in the same spring season move up-mountain to nest again in places that are then more favorable. Plausible as this explanation may be, we have for some time watched in vain for evidence that this actually takes place. Indeed we should like to solicit the aid of bird-banders and others in proving that an individual nests in two widely separated places in the same year. Skepticism that such movements occur increases with our knowledge of the different states of advancement of the reproductive cycle that can exist in members of the same species, as for example in White-crowned

Sparrows (Blanchard, Univ. Calif. Publ. Zool., 46, 1941:1-178) and in Oregon Juncos (Wolfson, Condor, 44, 1942:237-263). In these species, birds destined to migrate later will remain through early spring on common ground with another population that is engaged in nesting without themselves participating. Why can not this be true of altitudinal migrants? The late nesters of high altitude could remain far south or unobtrusively in the lowlands. Later at higher altitudes when they were conspicuously active with nesting, the early nesters of the lowland would have become quiescent and might even be molting, or they would have dispersed as postbreeding vagrants, often moving up slope, but not to nest again. Here is a problem that needs critical study by western ornithologists.---A.H.M.

PUBLICATIONS REVIEWED

The Fossil Birds of California, an Avifauna and Bibliography with Annotations (Univ. Calif. Publ. Zool., 47, 1942:47-142), by Loye Miller and Ida DeMay, is a valuable addition to the library of all ornithologists regardless of previous interest or knowledge of fossil birds.

In concise form, excellently arranged for ready reference, it affords a glimpse of bird life of the past which serves to enrich the appreciation of bird study today. Without a doubt it will fulfill the purpose desired by its authors: "First of all, it is planned as a workman's tool offered to those who may take up the study of this field.... Secondly, we hope that it may stimulate interest on the part of students who have not yet come to realize that paleontology is a live subject."

A subject still in its infancy as the century entered its second decade, paleornithology has grown so gradually that it is astonishing to see the wealth of information now available, as set forth in this complete review of previous publications on the California horizons. This information is presented in three main sections, each complete in itself. In the first section the thirty fossil bird localities of California are arranged in order of age, from the Miocene to the Pleistocene. The location of the deposit, the nature of the matrix, type of environment represented, associated animals, a list of the birds found and a reference list of literature are here recorded. The arrangement of the second section is taxonomic. The nearly two hundred species of birds known from the geologic past of California are listed and briefly discussed, with references appended. Common names are offered for each extinct form, providing convenient means of reference and serving, also, to bring to life these birds of long