

nation of anything which looks to be detrimental, or even not immediately and clearly of value, loom as the only "practical" aims. Dr. Linsdale refrains from giving much in the way of conclusions in his paper, leaving it for each of his readers to make interpretations suitable to his own understanding. However, we feel so apprehensive on the subject that we yield to the temptation to comment on our own part on some of the more obvious implications.

The total area poisoned in the year ending June 30, 1929, was over 5,000,000 acres (10th Annual Rept., Calif. Dept. Agric., December, 1929 [issued in 1931], p. 792); 558,000 pounds of grain poisoned with thallium were scattered. In one year, 1928, over *two million* pounds of poisoned grain were used. The behavior of thallium-poisoned animals is such that few dead animals come to the attention of the human observer, perhaps much less than one per cent. But even so, 116 witnesses report over 5000 dead animals identified and counted on less than one per cent of the total area poisoned. We can figure from this that in the last four years not less than 50 *million* animals *other than* ground squirrels have been killed in California through these operations! As to the money cost of such poison campaigns, \$812,478 were spent in California in the year 1930 for rodent control alone.

Now all this destruction of our higher vertebrate animals is done in the interests of but a part of the human population. Indeed, close analysis of the many angles in the problem leads to the query whether this expenditure has not been a total waste economically,—not only that but has involved a positive loss besides!

The pity of it is that these campaigns of destruction are carried on "in cooperation with" the Biological Survey, a governmental organization which we were brought up to believe, upon the best of grounds, was consecrated to the practice and encouragement of real conservation, and nothing else. While much of the work of this Bureau remains truly conservation in character and is thus to be highly commended, there has crept in of late years this insidious tendency toward a "practical" type of "conservation", which means saving profits for those groups of persons whose financial interests can be benefited by "control" (that is, extermination) of wild animal life.

It is a curious perversion, surely, when "conservation" is appealed to to justify *destruction*.

In our mind, at the present moment, the wholesale poisoning of wild animal life (birds, carnivorous mammals, rodents) on uncultivated terrain, ought to cease; not only that, but it should be prohibited by law. The first step to be sought is the stoppage of the use of thallium; and what is needed here is to reach those governmental authorities who are willing to heed facts and to act in the interests of people at large, not in the interests only of small though potent minorities. Read Dr. Linsdale's report; then if your conscience directs, exert your personal influence toward stopping this destruction of our wild animal life.—J. GRINNELL.

PUBLICATIONS REVIEWED

BANNERMAN'S BIRDS OF TROPICAL WEST AFRICA.*—We have picked this book for review because, first of all, the preliminary glance we gave it aroused our interest and second because we had already from time to time wanted to know about the birds of West Africa and here was a chance to gain ideas from a recognizedly authoritative source. From the latter point of view, therefore, what does the work in question offer as meeting the enquiry of a student already equipped with a knowledge in general ornithological science but who lacks entirely any first-hand knowledge of Old-World birds and who even has read but little concerning the bird life of West Africa?

Such a student will ask first for concise information concerning the general distribution of the bird life of the entire territory and then for the descriptions of the critical conditions which control the existence of species in different parts of the territory. These questions are answered in satisfying measure by Bannerman's chapter on "the relationship of the vegetation belts to the distribution of bird life in Tropical Africa." This chapter is illustrated by finely reproduced

*The | Birds of Tropical West Africa | with
Special Reference to those of the Gambia, | Sierra
Leone, the Gold Coast and Nigeria | By | David
Armitage Bannerman | [etc., 8 lines] | Volume
One | Published under the Authority of the |
Secretary of State for the Colonies by | The
Crown Agents for the Colonies | 4 Millbank, West-
minster, London, S.W.1 | 1930 [our copy re-
ceived June 26]. Crown 4to, pp. lxxvi + 376,
10 pls., 119 text-figs. Price 22s 6d for this vol.;
of the entire 5, as issued, plus postage, £5, 7s, 6d.

maps of the belts (or zones) of vegetation and of the avifaunal districts. Study of these at once gives explanation of the numbers as well as locations of the species in the different systematic groups of birds dealt with subsequently in the work. For, perhaps not yet often enough enunciated as a working principle, the avifauna of a region in its variety and kinds is a direct function of environment in its variety and kinds.

After well illustrated general keys, the birds of the region are taken up and given routine treatment on an organized plan for each as follows: A full and truly significant English vernacular name is selected for the heading; for example, "The North Atlantic Great Shearwater" for the bird which is given, with regrettably no significance to the lay reader, in the A.O.U. Check-List as "Cory's Shearwater." Then follows the scientific name, carefully determined as to subspecies, frequently with footnote giving definitely the ground for its employment, especially where there has been difference of usage in recently preceding literature; then a selected set of citations to the literature; then French, German and native names, where known. The description of the species or subspecies is concise, but seemingly adequate, supplementing the "key" characters already given for each family and higher group. Then, in large type are given the chief marks for field identification, a statement of range, and, of varying greater extent, up to several pages, an account of habits.

The illustrations throughout the present volume have been well chosen as appropriate to the purpose of the book, are abundant, and are of high merit ornithologically as well as, at least in the case of the plates, artistically. There are, not including many line drawings accompanying the general keys and the introductory matter, 119 text-figures and ten colored plates; two of the latter are the maps already referred to, eight of birds painted by the late Major Henry Jones. The drawings in the text, wash and line, are from brush or pen of a number of artists including Grönvold, Frohawk, Green, and Tenison.

As indicating the nature and often exceeding interest of the statements of habits, here are a few examples. Of the Northern Secretary-Bird (p. 169): "In killing its prey [snakes, rats, frogs, etc.] the bird uses its feet as a sledge-hammer, striking forwards and pounding its luck-

less victim to death. One realizes the force of the crushing blows delivered with the bird's foot once one has heard the noise of the stamping when a snake is being killed—a noise which can be easily heard at a considerable distance." Of the West African Sea-Eagle (p. 270), a not distant relative of our Bald Eagle: "Fish are, of course, its staple food, and these are caught by the eagle as it flies over the surface, but occasionally a bird will wade into the shallows and seize small fish imprisoned in pools. When occasion permits, it robs its less powerful associates—Pelicans and Cormorants—of their spoils." Of the female Pintail (p. 148), same species, though slightly differing subspecies, as our American bird: "The Pintail rides lightly on the water in comparison with the Mallard, which sinks its body much lower, a character which is even more strikingly exemplified in the drakes." We do not recall this field diagnostic character having been pointed out in our American literature.

We observe, of gratification to the American ornithological fraternity, that Bannerman gives frequent testimony to the soundness of the work that James P. Chapin is doing in Africa. When, of two qualified men working in a region independently, the one (or the other) finds reason repeatedly to concur in the conclusions of the other, we are doubly assured of the correctness of such conclusions.

A chapter on the ornithological history of the region is supplemented by a selected bibliography of 72 titles of articles and books relating to West Africa, classified by geographical subdivisions.

West Africa is so pictured bird-wise by Bannerman as to be most alluring to a person tempted to undertake zoological exploration abroad. Again and again it is made clear that very much good fundamental faunistic and systematic work remains to be done in that region of the Earth. He says (p. xiv): "Naturalists who find themselves in West Africa need not allow time to weigh heavily on their hands!"

All in all, we consider the plan and execution of Bannerman's *Birds of Tropical West Africa* commendable in high degree. With the completion of the entire five volumes serious bird students will be supplied with a well-nigh ideal manual for that territory. Of incidental remark, we need for North America a work of similar plan and execution, which curious-

ly we do not now have despite the great number of bird books appearing on the market year by year. The nearest approach is Coues' Key, but this work is now far out of date as regards its systematics.—J. GRINNELL.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

FEBRUARY.—The regular monthly meeting of the Cooper Ornithological Club, Northern Division, was held on February 26, 1931, at 8:00 p. m., in Room 2003, Life Sciences Building, University of California, Berkeley, with sixty members and guests in attendance. President George M. Wright occupied the chair. Minutes of the Northern Division for January were read and approved; minutes of the Southern Division for January were read.

Dr. E. R. Hall reported having received in the latest mail a letter from H. E. Anthony, Chairman of the Special Committee of the Society of Mammalogists, stating that the Predatory Animal Control bill had been passed by the House of Representatives and urging all those opposed to the bill to communicate their protests at once to Hiram W. Johnson and Samuel M. Shortridge, Senators from California. The secretary reported that, through the kindness of Mr. W. I. Follett, Assemblyman Charles W. Fisher of Oakland had become interested in the campaign to make the California Valley Quail State Bird and had on January 21, 1931, jointly with Assemblywoman Eleanor Miller of Los Angeles, introduced such a bill into the State Legislature. This bill, no. 776, is now in the hands of the Committee on Governmental Efficiency and Economy. Mr. B. C. Cain announced that Mr. Chase Littlejohn would address the March meeting of the Audubon Association of the Pacific upon "Birds of the Far North" and invited Cooper Club members to attend the meeting. He also stated that on the first, second, third and fifth Thursday evenings of April the Association will hold open meetings in the auditorium of the Pacific Gas and Electric Company in San Francisco, with the desire more fully to acquaint the public with our native birds.

Mr. Ben H. Thompson reported upon a trip through the Florida Everglades taken recently in company with Mr.

Wright. Most of the day was spent in the marshy portion where palms crowned the grassy hummocks; birds seen were Kingfishers, large flocks of Wood Ibis, Egrets by the thousands, Great Blue Herons, Louisiana Herons, a single Great White Heron, Water Turkeys, Marsh Hawks, five Glossy Ibises, small flocks of White Ibis and, when the day's end brought them to the mangroves along the coast, large flocks of Brown Pelicans against the sunset sky.

Mrs. Bracelin told of seeing a flock of forty-four Whistling Swans feeding on the flat north of the Sears Point cut-off, Napa County, California, and Mr. Charles Bryant reported about ten thousand Brant at the mouth of Tomales Bay, where he also saw seven Harlequin Ducks and eight Marbled Murrelets. Cranson Hopkins stated that he had seen a pair of Hooded Mergansers near the island in Lake Merritt. Mr. Grinnell voiced a vigorous protest against the maintenance on Lake Merritt of pinioned exotic ducks, barnyard breeds, and cripples, believing that the sanctuary would best serve its purpose if reserved for the free-flying wild fowl which come of their own volition. Mrs. Mead told of seeing a White-throated Sparrow on a feeding table kept by Mrs. Leavens who said the bird had visited the table daily since October. Mr. Cain reported the presence of a Slate-colored Junco, together with Oregon Juncos, in a group of twelve species about the feeding table at the Oakland Boy Scout Camp. Miss Stedman contributed a note upon the presence of a flock of forty Cedar Waxwings at her home on Howe Street, together with a Spotted Towhee, a species not usually seen so near the center of Oakland.

Dr. Gayle B. Pickwell of the San Jose State College provided the evening's program, a series of beautiful lantern slides of birds and flowers of the upper slopes of Mount Rainier, illustrating the life histories of the Pipit and White-tailed Ptarmigan, which species nest within the glacial cirques of the Arctic Zone, a fascinating region beyond the reach of most Club members.

Adjourned.—HILDA W. GRINNELL, *Secretary*.

MARCH.—The regular monthly meeting of the Cooper Ornithological Club, Northern Division, was held on Thursday evening, March 26, 1931, at 8:00 p. m. in Room 2003 Life Sciences Building, Uni-