

with Dr. Pirnie in this predator discussion is his opinion that it is "rather unnecessary and unwise to completely outlaw the use of pole traps"—simply because they are more efficient in catching Horned Owls than any other trap.

He wisely says that "Pheasant farms, deer refuges, fish ponds, and duck sanctuaries are not ultimate goals; they are only steps in the program to obtain additional recreation, sport and healthful activity and possibly create new vocations for a greater number of people. Social and economic aspects should not be lost sight of in the maze of such details as the best dates for shooting seasons or how to grow more pheasants per acre." In this same line of thought we should add the oft repeated fact that wild life belongs to all and if a thousand individuals get a great delight in the sight of a living Goshawk or Horned Owl why should these splendid birds be killed to meet the demands of the ten who desire to kill for sport the Ducks or other game which the birds have always relied upon for food? If we could have State Conservation Committees instead of Game Commissions we should cover the whole problem more satisfactorily and be able to serve the many instead of the few, and there would still be plenty of hunting for those who desire it.

Dr. Pirnie has written a splendid book which should be in the hands of as many men as possible. It is well printed and illustrated with many half-tones of birds, landscapes, food plants, etc., etc., and a good state map.

The Michigan Department of Conservation and the W. K. Kellogg Bird Sanctuary of which the author is in charge, deserve to share the credit for this excellent publication.—W. S.

Every Garden a Bird Sanctuary.—This is a British book¹ of a kind of which we have had a number in America but any helpful word on the subject is welcome and we can gain important new ideas from the perusal of Mr. Turner's little volume. He begins with an appropriate and unfortunately too true quotation of Lord William Percy that: "There is a sad irony in the fact that this period of awakening interest in these subjects has synchronized with a phase of human civilization which has involved such wholesale and world-wide decrease in wild life that it has become clear to all that the preservation, even of that remnant which survives, will tax the ingenuity and coöperation, not merely of groups of individuals but of groups of nations." Following are instructions for providing natural shelter, berry bushes, nesting boxes, feeding shelves etc. Also discussion of woodland and marsh sanctuaries. The information is well presented and the little book should do a world of good.

Most interesting to Americans, just at the moment, is the account of the Desborough and Gurney estates where game has been successfully reared and shot for years and where no Hawk or Owl is ever killed! Why do our so-called sportsmen allow themselves to be misled by the plea of the manufacturers of guns and ammunition for the extermination of predators?—W. S.

Sutton on Juvenal Plumages.—With the coöperation of the Cranbrook Institute of Science Dr. George M. Sutton has published an interesting paper² on the juvenal plumage and post-juvenal molt of several North American Sparrows with beautiful colored plates of eight of them in this early plumage, reproduced from his original paintings. These represent the Cardinal, Indigo Bunting, Towhee,

¹ Every Garden a Bird Sanctuary. By E. L. Turner, F.L.S. With Plates and Drawings, London. H. F. and G. Witherby, Ltd., 326 High Holborn, 1935. Pp. 1-190. Price 5 shillings net.

² The Juvenal Plumage and Postjuvenal Molt in Several Species of Michigan Sparrows. By George Miksch Sutton, Cornell University. Bull. No. 3, Cranbrook Institute of Science, Bloomfield Hills, Michigan. September, 1935. Pp. 1-36.

Savannah Sparrow, Henslow's Sparrow, Chipping Sparrow, Field Sparrow and Song Sparrow as found in Michigan.

Dr. Sutton emphasizes the fact that the juvenal plumage is rarely a complete plumage, some of the body feathers usually being replaced by those of the first winter plumage before the flight feathers are fully grown. This fact is well-known to those who have tried to collect specimens in "full juvenal" plumage and they, like the reviewer, have doubtless come to the opinion that in some species at least such specimens simply do not exist! In order to properly depict the early body plumage Dr. Sutton has been compelled to use birds with "stubby" tails and short wings. The same thing is true, moreover, with later plumages and molts and in the case of shore-birds it is often possible to find specimens with feathers belonging to three different plumages.

In this connection it has always seemed to us that our nomenclature is at fault for we sometimes use the term "plumage" to indicate a set of feathers belonging to the same sequence and at others the dress in which the bird may be at a given time, often comprising feathers belonging to different sequences. A full feathered autumn bird freshly molted is really in the same "plumage" as a spring specimen in which the feathers have suffered marked wear, even though its appearance has been materially altered by the latter process.

Dr. Sutton, quite rightly, criticizes certain authors for their statements regarding the length of time that the juvenal plumage is worn. The finding of birds in this plumage at the beginning and the end of summer is no proof that the same individual had retained this plumage throughout that period. As a matter of fact, the duration of the juvenal plumage is, as he points out, probably quite short.

Perhaps the most important point brought out by Dr. Sutton's studies of young birds is the apparent additional partial plumage that the Cardinal assumes as the juvenal plumage is lost and before the "first winter" dress is acquired. So far as I am aware no previous author has called attention to such a plumage. Dr. Sutton suggests that this may be in fact the "first winter plumage" crowded forward from the usual time and that the familiar winter plumage is really the nuptial plumage acquired in autumn instead of in spring. He supports this theory by the argument that it is unusual for a bright plumaged bird to have no more of a molt in spring than that which the Cardinal shows, the spring dress of which differs from the winter garb mainly by wear. We are not prepared to endorse this line of argument however, since a number of dull plumaged birds have a complete spring molt and we have been unable to find any connection between the brilliancy of plumage and the amount of the molt.

In the case of the Savannah Sparrow Dr. Sutton finds two "phases" of juvenal plumage, one much duller than the other. There are many other interesting points brought out in his detailed discussion of the several species which limited space prevents us from taking up. Our readers should see the paper in its entirety as it is one of the most notable contributions to the study of plumages and molts that has appeared for many years, and shows that the last word has not yet been said upon this fascinating subject.—W. S.

Chapman on the Courtship of Gould's Manakin.—Dr. Chapman always makes good use of his winter sojourns to Barro Colorado and he has just published a study¹ of the life history of Gould's Manakin as observed in 1932 and 1935

¹ The Courtship of Gould's Manakin (*Manacus vitellinus vitellinus*) on Barro Colorado Island, Canal Zone. By Frank M. Chapman. Bull. Amer. Museum Nat. Hist., LXVIII, Art. VII. Pp. 471-525. September 30, 1935.