

of strong emphasis in such a paper; namely, the fact that locality and numbers of individuals have a great deal to do with the amount of damage done. In some parts of the United States sapsuckers are of such rare occurrence that the placing of the birds on the blacklist would be foolish indeed. As the study of economic ornithology progresses it will be seen more and more clearly that whereas a bird may be a pest in certain localities due to certain local conditions, yet in other localities the same bird may be a decided benefit or at least of neutral value. There is no intention of defending sapsuckers as a class, for we agree with Mr. McAtee that the sapsucker "must be included in the class of injurious species, the destruction of which when caught rehdanded is justifiable"; but "circumstances alter cases" and this view is important.

The bibliography is a welcome addition in this publication of the Biological Survey. To the average farmer this means nothing, but to the scientific student it adds greatly to the value of the paper. The incorporation of reliable data by other workers in the field adds much to this type of publication. It is a pleasure to note also the elaborate set of plates and figures. To the men for whom these publications are intended such illustrations mean much more than the printed data.—H. C. BRYANT.

A MONOGRAPH OF THE BROAD-WINGED HAWK (*Buteo platypterus*) by FRANK L. BURNS [=The Wilson Bulletin XXIII, 1911, nos. 3 and 4, pp. 143-320, 10 pls.].

The scope of this work is perhaps best indicated by a recapitulation of the different heads under which the subject is treated, which, in order of succession, are as follows: Diagnosis of genus, distinguishing specific characters, description and measurements, synonymy, geographical distribution, flight, food, voice, enemies, disposition in the presence of other birds, disposition in the presence of man, disposition in captivity, migration, station, mating, nidification, incubation, young, molt and renewal, bibliography.

The assemblage of the mass of data here presented is evidently the result of a large amount of painstaking labor. Besides being a compilation of previously published literature on the subject, the paper contains much new and unpublished material, the many manuscript records in the details regarding distribution, and the careful accounts of the molt, actions and habits of young birds raised in captivity, being particularly noticeable. The illustrations are excellent and well chosen, figuring young birds, immatures, and adults, eggs and nests.

It is, therefore, an important contribution to our knowledge of the species, and a praiseworthy effort at condensing and making accessible the widely scattered information dealing with the subject. In spite of its general excellence, however, there are a few points which the reviewer (possessing a very limited knowledge of the species dealt with) feels could have been made more clear and explicit. Thus while in the definition of its geographical distribution, the southern limit in summer is given as from Florida to central Texas (page 170), farther on, under "nidification" (page 248) there is mention of the character of nests found in Central America, leaving the reader in doubt as to whether the species occurs there in summer, or breeds in winter. Then in the treatment of the Cuban bird, a new name is offered for the subspecies, *Buteo platypterus cubanensis*, but in an exceedingly casual manner, neither a type specimen nor type locality being designated; also it is impossible to determine from the text whether or not the author believes the bird he is naming is recognizably distinct.—H. S. SWARTH.

THE RELATION OF BIRDS TO AN INSECT OUTBREAK IN NORTHERN CALIFORNIA during the spring and summer of 1911. By HAROLD C. BRYANT. (=CONDOR XIII, no. 6, Nov.-Dec., 1911, pp. 195-208, figs. 67-70).

This is the first attempt, so far as the reviewer is aware, to study the behavior of birds in the presence of abnormally large numbers of butterflies. An idea of the immense numbers of these insects (*Eugonia californica*) present during the outbreak in northern California, is given by Mr. Bryant's statement that an average of 108 per minute passed between two fir trees 20 feet high and 30 feet apart, and that 150 were counted on one square foot of ground at a drinking place. From direct observation the author learned that the Brewer blackbird, the western kingbird and meadowlark fed upon the butterflies, and examination of stomachs added the Say phoebe and the blue-fronted jay. Both sources of evidence pointed to the Brewer blackbird as the principal bird enemy of the insects, and flocks of this species were seen feeding almost exclusively upon the *Eugonia*. Thus only five species of birds out of a total of 45 species observed, and of 21 of which stomachs were examined, were found feeding upon butterflies under circumstances about as favorable for that pursuit as can be imagined. Eliminating the smaller birds which could hardly be expected to prey upon *Eugonia*, it was found that the known enemies constituted only about a fifth of the numbers of species of the remaining larger birds.