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 redhanded 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 Besides being a compilation of previously published literature on the subject, the paper contains much new and unpublished material, the many manuscript records in the details regarding distribution, and the careful accounts of the molt, actions and habits of young birds raised in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.

However, this seemingly very moderate attack upon butterflies, surpasses in amount of execution all previous records of the destruction of butterflies by birds in the United States combined. Whether they are too dry and dusty to be worth chasing or whether they are too active on the wing to be easily caught, or whether for some entirely different reason, the fact remains that butterflies are very little in demand with birds in the United States. Four records of birds eating butterflies are all that are afforded by the records of the examination of more than 40,000 stomachs in the Biological Survey, and one of these probably relates to the capture of a very recently emerged specimen, or to one torn from the pupa before emergence, as it was accompanied in the stomach by a pupa of the same species. This was an *Eargyreus tityrus* taken by a crow. The other records are *Eudamus* (sp.?) eaten by a yellow-billed cuckoo, and two pierid butterflies captured by kingbirds. Hence the fact that five of the species studied by Mr. Bryant utilized an unpopular kind of food, and that one of them did this to a considerable extent, gives all the more weight to the observation, as proof of the rule that birds usually take advantage of the abundant food supply created by an insect outbreak. On the whole Mr. Bryant's work is well done and his final conclusions are sound. In referring to Professor F. E. L. Beal's account of the Say phoebe, however, he misinterprets the statements there made. Professor Beal says that moths and caterpillars, not *butterflies*, forms ten percent of this bird's annual food. The case of the ash-throated flycatcher is similar. As the data given above shows, neither species was found by Professor Beal to take *butterflies*. The opinion expressed on page 200 that it "will be shown birds have an important part to play in the destruction of the butterflies", is hardly borne out by the facts presented.—W. L. McATEE.

USEFUL BIRDS OF SOUTH AUSTRALIA—Our Feathered Friends. Protected Native Birds. [By A. G. EDQUIST] (=Journ. Dept. Agr. South Australia, XIV, no. 9, April 1911, pp. 848-855; no. 10, May 1911, pp. 936-938; no. 11, June 1911, pp. 1038-1042; no. 12, July 1911, pp. 1136-1140).

In the July-August number of THE CONDOR (XIII, no. 4, p. 142) the reviewer noticed the first of the articles above cited. Apparently the series is now finished. For a work purporting to set forth the economic value of birds, remarkably little is said about the food. On the average less than two printed lines are devoted to a characterization of the food of each species, and for nine out of a total of nineteen species this statement amounts to no more than an assertion that the bird is insectivorous. Of course the reviewer understands that no specialized work in economic ornithology has been undertaken in Australia, but those whom the author is seeking to impress with the value of certain South Australian birds, have a right to demand more explicit information regarding food habits. Especially justifiable is this demand, since the pages of the *Emu*, and other publications on Australian birds, contain numerous specific references to the food of birds, many of which relate to one or another of the nineteen species treated by our author. It is not unreasonable to expect that these references should be collected by Australians interested in bird protection; but nevertheless, we have several publications on the "useful birds" or the "insectivorous birds" of certain States, which contain very sparing references to bird food.

A few instances from the papers now being discussed will illustrate this unfortunate tendency. The author says of the spotted bowerbird (*Chlamydodera maculata*): "Food; chiefly seeds and berries of native plants" (no. 11, p. 1038). Mr. F. B. Campbell Ford notes that in Queensland this species feeds largely on white-cedar berries (*Emu* II, pt. 2, Oct. 1, 1902, p. 101), and Mr. A. J. North says: "It is very destructive in gardens, eating nearly every kind of cultivated fruit and berries, being especially fond of chilies, and the seeds of the introduced pepper plant (*Schinus molle*). In the stomachs of the specimens I have examined, I also found portions of unripe tomatoes, grape skins and seeds, and whole raisins" (Special Catalog I, Australian Museum, vol. I, part 2, 1902, p. 44). On another page (46) it is noted that the bird is fond of figs and grapes. Mr. Robert Hall adds that it is asserted by some observers that this bird is the greatest pest the orchardist has to contend against. . . . In Queensland they favor small fruits of a bright color, such as guavas, to the detriment of the grower" (The Useful Birds of Southern Australia, 1907, p. 252).

Our author's statement therefore is shown to be not only excessively brief and generalized but also inaccurate.

Regarding the grey shrike-thrush (*Collyriocichla harmonica*) the author ungrammatically remarks "Its food is chiefly insectivorous, and often consists of caterpillars" (no. 10, p. 936). North says (l. c., p. 93) that it feeds on insects and their larvae, worms, snails, centipedes and small lizards. H. S. Dove specifies hairy caterpillars as part of its diet (*Emu* X, pt. 2, Oct. 1910, pp. 136-137), and Mr. D. Le Souef, the genial ornithologist whom many of us have had the pleasure of meeting in the United States, states that they take the eggs of other birds and that one was seen to pick up a chestnut-bellied quail killed by a hunter (*Emu*