tives in every choice of characters. This is not the plan followed in the present work and we find birds grouped under such primary headings as "slate or gray"; "head blackish or dark gray"; "wing spots or bars"; "rump white"; and "legs long." It is obvious that some species will fit under four or five of such classes and it takes some time to run them down in each until you find which one is the right one. Of course such species are usually repeated in each class so that this trouble is often avoided but not always.

The most serious criticism that can be brought against Dr. Bergtold's book is the carelessness in the use of common names in the keys and the unfamiliarity of the proof reader with ornithological names. In a hurried perusal of the text and index we note upwards of sixty misspelled names while such a well known name as Bonaparte is consistently spelled "Bonepart" while Wheatear everywhere appears as "Wheateater" etc.

In the keys there is no consistency as to the possessive, the apostrophe being retained or omitted on succeeding lines, while many names such as Butcherbird, "Orange-shafter [sic] Flicker," etc. are used in the key but are not to be found in either the text or the index, which must be a serious hindrance to the beginner. We earnestly hope that Dr. Bergtold, when another edition is to be printed, will see that the printer secures a competent proof reader which will vastly enhance the practical value of his little book.—W. S.

**Holt on the Birds of Itatiaya Mountain, Brazil.**[1]—From December 12, 1921, to April 30, 1922, Mr. Holt was engaged on an ornithological survey of the Serra do Itatiaya for the American Museum of Natural History, and in the paper before us he presents the results of his work, including an annotated list of the 559 specimens secured.

The peak towers 7800 feet above the plains and is in reality a volcanic eruption superimposed on the more ancient Serra da Mantiqueira range. Geographically it is located near to the juncture of the three states of Rio de Janeiro, Sao Paulo, and Minas Geraes, although practically all of Mr. Holt's work, as well as that of previous ornithologists, has been in the first.

He finds three life zones represented on the mountain: the Tropical, Subtropical and Temperate, practically coextensive with the plant zones delimited by the botanists. While Dr. F. M. Chapman in his studies of Andean bird life, has expressed the opinion that the Subtropical Zone never reaches sea level Mr. Holt thinks that this probably does not hold good for Brazil and that a study of conditions on the coast between the southern border of Sao Paulo and the southern end of the Serra do Mar, would show this zone meeting the sea.

Tabulating the 187 species of birds found on the mountain, the author

[1] An Ornithological Survey of the Serra Do Itatiaya, Brazil. By Ernest G. Holt. Bull. Amer. Museum Nat. Hist., Vol. LVII, Art. V., pp. 251–326, June 7, 1928.

finds 71 characteristic of the Tropical, 62 of the Subtropical, 12 of the Temperate and 42 of general distribution, while an additional table gives the altitudinal range of each.

His several collecting stations are described in detail with the characteristic species of each, and then follows the well annotated list.

As Mr. Holt says "with a few notable exceptions local lists of birds are practically non-existant for Brazilian localities and those that do exist contain no data on altitudinal distribution." It will therefore be at once evident that he has made a contribution of no mean importance to zoogeography.

As the Serra do Itatiaya is—with one exception, Pico da Bandei ra—the highest mountain in Brazil, and is separated by some 1200 miles from the nearest outlying spur of the Andes, it would be extremely interesting to have some comparison of the avifauna of the two ranges. We trust that Mr. Holt's valuable survey will place Dr. Chapman in a position to make such a comparison, and to trace the origin of the fauna of these coastal mountains as he has already done for the Andean system.—W. S.

**Kendeigh and Baldwin on Temperature Control in House Wrens.**—The investigations described in this paper[1] were carried on at the Baldwin Bird Research Laboratory, with the use of specially constructed mercury thermometers and thermocouples, the latter proving more reliable and satisfactory.

There is much detailed description of the methods employed and the data obtained. The object in view was the determination of the amount of variation in temperature exhibited by nestling House Wrens of various ages. The data show that, under natural nest conditions, the body temperature varies several degrees during the first few days out of the shell, but by the time the young are ready to leave the nest, the temperature is higher but distinctly less variable, so that the young nestlings are more like "cold-blooded" animals than like warm-blooded ones, so far as their temperature variation is concerned.

Other investigations show that there is a definite development of a resistance against cold which follows the sigmoid growth curve but there is no efficient resistance against extreme heat, though rapid respiration and the development of air sacs probably serve to this end.

This paper is a good illustration of the excellent work, in what might be termed "experimental ornithology," that is being carried on in Mr. Baldwin's Research Laboratory, and we look forward to many other important investigations under his efficient direction.—W. S.

[1] Development of Temperature Control in Nestling House Wrens. By S. Charles Kendeigh and S. Prentiss Baldwin. American Naturalist, LXII, May–June, 1928, pp. 249–278.