

## EDITORIAL NOTES AND NEWS

The Cooper Club membership list prepared by Mr. Harry Harris and published in the present issue of the Condor shows a total current enrollment of 869. This is good evidence of continued wide interest in the field of western ornithology. Also, this roster will doubtless find extensive use as a directory of active naturalists.

Further changes in the business management of the Cooper Ornithological Club and of the Condor are necessitated by growth. Mr. John McB. Robertson, Buena Park, California, takes over entire charge of our membership and subscription lists; hereafter all Club dues and subscriptions should be sent directly to him. Mr. W. Lee Chambers will now concern himself more with endowment affairs and investments, besides continuing to handle sale of back publications.

By the will of the late Mrs. Edward A. Kluegel (Belle Marsh Kluegel) the Cooper Ornithological Club receives \$500.00, bequeathed to it as an addition to the endowment fund. Increments of this character mean permanency in the Club's capacity to publish and thus distinctly encourage the Business Managers and the Editors. Mrs. Kluegel was a regular attendant upon Northern Division meetings for many years. While not an active participant in our programs, she evinced lively interest and her pleasant personality is lastingly remembered as making the occasions pleasurable. Her death took place at Carmel on the 28th day of May, 1928.

### PUBLICATIONS REVIEWED

**BATES ON THE BIRDS OF WEST AFRICA.**—In our young days Timbuctu signified just about the farthest frontier in the vast unknown interior of the Dark Continent. Now, it appears, there is scarcely a geographical nook left unexplored anywhere in Africa, and much of it is easily accessible not only to the trader and farmer but, of late, to the tourist. An evidence that this last stage is now reached is before us in the shape of a well-gotten-up "Handbook of the Birds of West Africa" (London: John Bale, Sons and Danielsson, Ltd.; 30s net), by George

Latimer Bates, with illustrations by H. Grönvold; 1930 (our copy received January 27); pp. xxiv + 572, numerous uncolored illustrations. If you contemplate travelling through any of the region from Timbuctu south to the Gold Coast and from Senegal east to Lake Chad, and want to learn the birds along the way, take along a copy of Bates's Handbook. You will surely want to realize it when you find yourself within the range of the Bat-eating Buzzard, or of the Yellow-mantled Whydah-bird. You mustn't miss a chance of seeing the famous Black-throated Honey-guide, even though Mr. Bates declares that he personally knows no evidence supporting the tradition that honey-guides go about "of set purpose and intelligently, guiding people to places where honey is to be found!" Even to *one* who has no prospect ever of touring West Africa, the book in hand provides much natural history pleasant to read and obviously of sound authority.—J. GRINNELL.

**WILLIAM ROWAN'S** latest account of **EXPERIMENTS IN BIRD MIGRATION\*** conducted at Edmonton, Alberta, presents a concrete type of data relating to the intricate problem of migration. Although the amount of literature on this subject is already most extensive, rarely are new facts, such as the data presented in this work, added to the common fund of knowledge. In a sense, Rowan's experiments are unique in that they seriously attempt to isolate and test single environmental factors and do not resort to the usual type of casual or even accidental observation. The author is well fitted to deal with migration by reason of his extensive experience among Canadian migrants, yet, at times he may be unduly influenced by the perfect and nearly universal migration of his local bird species. Were Rowan a Californian, for example, different emphasis might have been placed upon the vast number of birds which are resident or in which the migratory in-

\*Experiments in Bird Migration. I. Manipulation of the Reproductive Cycle: Seasonal Histological Changes in the Gonads. By William Rowan. Proceedings of the Boston Society of Natural History, vol. 39, no. 5, October, 1929, pp. 151-208, plates 22-32.

instinct is poorly developed. It is well to recall that the majority of all known birds are in the non-migratory category.

The paper under consideration is largely a description of experiments and accompanying histological studies made on Juncos, and is designed better to establish theories of migration more fully argued in an earlier article (Rowan, W., Proc. Boston Soc. Nat. Hist., 38, no. 6, December, 1926, pp. 147-189). No attempt is made to deal with the originating causes or adaptive aspects of migration. He is concerned instead with the *modus operandi* of migration as it involves both extrinsic and intrinsic factors. However, a considerable antiquity is assumed for migration, an assumption perhaps not wholly justified for a bird such as the Junco of which the subspecies and local populations show wide variation in the migratory instinct, some in fact being entirely resident.

In brief, the experiments consist of subjecting Juncos and a few individuals of other species of small fringillids to either artificially increased or decreased length of day, all other known environmental factors of food, temperature, exposure, etc., being kept constant. A series of control birds was maintained. Variation of day length was produced both by electric light and by enforced activity without light. Numerous sample birds were killed at various times in order to make histological examinations of the gonads, and, to a limited extent, examinations of certain other endocrine tissues. Numbers of experimental and control birds were released and subsequent trapping conducted to determine whether or not the released birds migrated or at least departed from the immediate vicinity.

The essence of Rowan's conclusions are as follows: The north and south migrations of small fringillids and possibly of all birds are dependent upon the fall retrogression and spring recrudescence of the gonads. One of the important histological changes in the gonads at times of retrogression and recrudescence is the appearance of interstitial cells which presumably produce a hormone serving to instigate migration. The physiological rhythm of the gonads is timed and regulated by photoperiodism, or the effect of seasonal variation in length of day. Temperature and other weather conditions have either limited effect or have no effect on the gonad-migration rhythm,

photoperiodism being the important extrinsic factor. Increase and decrease in length of the daily period of physical activity is the important result of photoperiodism which effects gonad change. The length of the period of activity is of importance and probably not the intensity of the activity.

On the whole I am inclined to subscribe to Rowan's conclusions with certain limitations concerning their applicability, to be noted later. However, no matter how plausible his theories may be, I feel obliged to discuss points in his conclusions which in time doubtless will be proved true but which as yet are inadequately demonstrated by experimental results. The relation between the length of daily period of activity and gonad change is clearly demonstrated in the species studied. Also, the effect of day length on migration seems well proved for the Junco as a result of the observations made in connection with the release of experimental and control birds. On the other hand, the intensity of physical activity, regardless of its apparent lack of effect in Rowan's cage birds, may be of importance and thus, in some instances, may operate independently of day length in effecting either migration or gonad change. The production of the gonad rhythm in tropical species may be a case in point. However, there remains the weakest link in the conclusions, that of the control of migration through the gonads. It is possible that day length and consequent activity may effect gonad change and migration synchronously yet independently of one another, day length exciting migration through the nervous system or through the endocrine system other than the gonads. This alternative explanation of the experimental results seems not to be disproved so far as I can determine by any of the experimental data, even though Rowan's explanation is perhaps more plausible on theoretical grounds and on the basis of certain circumstantial evidence. The supposition that a hormone from the interstitial tissue of the gonads controls migration, probable as it may seem, is admittedly a matter of speculation on Rowan's part.

I feel that the problem of the mechanism of migration can not be as simple or as uniform among birds as the photoperiodism-gonad-migration explanation leads one to believe. Transequatorial and altitudinal migrations require modified or

entirely different explanations from that which applies to Juncos. It may be that the gonads and photoperiodism furnish only the initiating impulse and that the magnitude and especially the direction of migration are determined by other agencies.

The comment here offered aims not to detract from the striking and highly commendable work of Rowan. Questions are raised which doubtless are in process of solution at the present time by him. Rowan seems well on the way toward settling certain phases of the migration mechanism. Pending more elaborate confirmations, however, I feel that an over-enthusiastic acceptance of all points in Rowan's theories would lead to an attitude of uncritical satisfaction rather than to the best progress toward a complete understanding of migration.—ALDEN H. MILLER, *February 25, 1930.*

**BERNHARD RENSCH ON RACE-GROUPS AND THE ORIGIN OF SPECIES.\***—This volume must be approached with liberality of spirit. If the reader must assume a professionally defensive attitude, with one hand raised to set off the whole critical battery of his reference shelves, he may perhaps riddle the book at a hundred points, not one of which is likely to be vital. At the same time he may prove himself merely stiff-necked before some of the richest chapters of constructive criticism which have been printed in recent years.

Perhaps the chief trouble is that Rensch falls between two stools. He disclaims the intention of scholarly completeness, yet falls short of the ease and continuity of the scientific essay. Where he might follow the graceful sequences of Darwinian exposition, or the sincere simplicity of a Julian Huxley, he retains the jolting, subdivided, ugliness of the technical paper of the day, though without its pretense to mechanical completeness.

From an elaborate review and analysis of the geographic principle in modern systematics Rensch passes with almost naïve directness to the problem of the origin of species and the evidence for the direct influence of environmental changes, normally unaided by mutation, selection, or the indefinite factors of "orthogenesis."

The heart of the matter lies in the seventh chapter, which examines, and often,—perhaps suspiciously often,—sustains, such laws and such suggestions as serve to coordinate racial and environmental gradations. The total is imposing, and while it goes without saying that such an exposition, confined within 185 pages of text, can in strictness hardly win more than the verdict of "not proven," the array of evidence presented on such matters as progressive variation in size, proportion, and melanin quantity or quality, physiologic factors, sexual affinity and its relation to morphology, the relationships of laboratory and field genetics, and the histological basis of many phenomena, is sufficient to keep a good company of field, museum, and library naturalists employed for a generation, testing and checking one plausible and constructive hypothesis after another.

There is a suggestion that certain American sources have been treated rather casually. Those who are familiar with the array of modern critical paraphernalia which Dr. Linsdale has brought to bear on his races of *Passerella* will be amused to see his paper dismissed as "depending wholly on direct measurements, with no ratios." F. B. Sumner, who is drawn upon more extensively than any other American or Englishman, with J. A. Allen a close second, is apt to be "swallowed whole" with little regard even for his own reservations, as is the case with his experiments on temperature and hair-weight in mice. As may be inferred, the vast majority of sources, outside Rensch's personal investigation in Europe and the East Indies, are German. Two hundred and forty-eight titles are brought into play and assembled at last in an excellent bibliography of cited works.

On page 116 a section heading has been omitted. On page 82 the word "rassen" appears to have been used inadvertently in place of "arten."—T. T. MCCABE, *February 27, 1930.*

**MANUAL FOR BIRD BANDERS.\***—For ten years now, bird banding has been a major activity among the bird students of Canada and the United States. One group of birds after another has yielded to trap ingenuity, until today a surprisingly large

\*Rensch, Bernhard: *Das Prinzip geographischer Rassenkreise und das Problem der Artbildung*. Berlin, Gebrüder Borntraeger, 1929: 8vo., pp. 4 + 206, 27 figs. in text.

\*Manual for Bird Banders, by Frederick C. Lincoln and S. Prentiss Baldwin. Misc. Publ. U. S. Dept. Agr. no. 58, November, 1929, pp. 1-112, 70 text figs.