

to the utmost, and the resultant report discloses the domestic life of the king of birds to its uttermost details. The nest under observation was built on a cliff in a deer forest in Scotland, and a blind was constructed near by, affording concealment to observer and camera, where many long hours must have been spent in watching the daily progress of the young bird. The account is written in most simple and convincing style, with none of the imaginative flights that so often mar such observations, and is a substantial and valuable addition to our knowledge of the life history of a most interesting bird.

The accompanying photographs are beautiful and interesting, almost telling the story by themselves. Considering the large amount of dark, rainy weather encountered during the period of observation, the photographic results seem really remarkable.—H. S. S.

ANNOTATED LIST OF THE WATER BIRDS OF WELD, MORGAN AND ADAMS COUNTIES, COLORADO, SOUTH TO THE FIRST SECTIONAL LINE BELOW THE FORTIETH PARALLEL. BY A. H. FELGER. With three maps. (From *The Auk* XVI, no. 3, July, 1909, pp. 272-291).

The list is a long one, especially so for a section of the country that we are not accustomed to think of as being particularly well situated for the abundant occurrence of water fowl. The recent abundance of these birds is attributed largely to the settlement and farming of the country, with the attendant construction of reservoirs and irrigating systems. Besides the author's personal observations on the birds of the region during eleven years—1898 to 1909—he has drawn upon all the published sources of information available, making the list authoritative and apparently quite complete.

Many species of waders known to breed only in the far north were observed in varying numbers thru the summer, giving rise to the suspicion that they might be found nesting in the region. While this may prove to be true in some instances we believe it to be unsafe to assume as much from the mere occurrence of the birds during the summer months. Individuals of even such northern species as the Western Sandpiper and the Northern Phalarope are known to spend the summer as far south as southern California, and such of these as have been collected have always proved to be non-breeding birds.—H. S. S.

ECOLOGY OF THE HOATZIN. BY C. WILLIAM BEEBE [=Zoologica, vol. 1, no. 2, Dec., 1909, pp. 45-66, Figs. 7-19]. This contribution to the life history of an exceedingly curious and little known bird contains much of great interest. A bird with its crop replaced by a "gizzard," that uses its wings as hands and has

claws on its "fingers," that has the large, heavy feet of a ground dweller and still lives in the tree tops, but can swim and dive if need be, is enough of an anomaly to somewhat prepare us for the author's conclusion, startling as it appears, that the Hoatzin is very imperfectly adapted to its surroundings. This appears to be true to such a degree that it is only the total absence of active enemies that enables the bird to survive.

The numerous excellent photographs add greatly to the interest of the paper. Some of these depict the Hoatzin in life. Others from prepared specimens, show peculiarities of structure, such as the curiously modified sternum, clearly illustrating the feeble flying powers of the bird, and the claw-armed wings of the immature bird, used in clambering thru the branches.

A map illustrates the distribution of the species as known at present, and a bibliography of pertinent literature is appended to the paper.—H. S. S.

RACKET FORMATION IN TAIL-FEATHERS OF MOTMOTS. BY C. WILLIAM BEEBE [=Zoologica, vol. I, no. 5, January, 1910, pp. 141-149, figs. 43-47]. The strange habit of voluntarily mutilating their tail feathers, peculiar to the Motmots, has long been a subject of interest to ornithologists, the mathematical regularity with which the trimming is done, and the object of the peculiar ornamentation, being alike food for speculation. In the present paper Mr. Beebe tells of certain experiments carried out on a living bird, which seem to cast much light on some phases of the question. As remarked by the author, the fact that before the denudation the feathers at the point of trimming are narrower than elsewhere, has been cited as a possible example of the inheritance of acquired characters, the theory being that generations of trimming have produced narrower feathers, which would, presumably, in further generations, be gradually replaced by others entirely bare at that point. On the face of it this theory appears to explain the existing conditions very plausibly, but Mr. Beebe's experiments seem to show that the acceptance of such a belief is but placing the cart before the horse—a complete reversal of cause and effect.

Lack of space forbids our giving an outline of the experiments carried out, but the conclusions reached are briefly as follows: that a certain portion of the central rectrices shows a congenital degeneration of barbs and barbules; that these barbs are strong enough to adhere to the shaft during the growth of the feather, but too weak to survive the manipulation received during preening. Hence that the regularity with which the trimming is done is entirely involuntary on the part of the bird, and not at

all indicative of an "artistic eye"; and that the narrowing of the vane at the subsequently denuded portion of the retri is but one feature of the degeneration of that part of the feather, rather than the result of voluntary mutilation carried on thru many generations.

It is a subject of great interest, most attractively presented, and to the reviewer at least, the conclusions are most convincingly demonstrated.—H. S. S.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

NOVEMBER.—The November meeting of the Northern Division of the Club was held on Saturday evening, November 20, at Berkeley, in the lecture room of the Museum of Vertebrate Zoology. The meeting was called to order by President W. K. Fisher. The minutes of the October meeting were read and approved as read. A communication from Mr. Wm. Dutcher, of the Audubon Society, was read and placed on file. The resignation of Dr. Lu Ella Cool Walker was read, and on motion was accepted. The motion was made and carried that the Club hold an annual dinner.

Nominations for officers for 1910 were declared in order and the following nominations were made: President, J. Grinnell; Senior Vice-president, R. S. Wheeler; Junior Vice-president, J. Dixon; Secretary, H. W. Carriger; Treasurers, J. Eugene Law and W. Lee Chambers.

Mr. Grinnell gave a very interesting talk on the Gray Vireo and the Dusky Warbler, illustrated by skins of the warbler, and nests, eggs, skins, and photographs of the vireo. Mr. J. Mailliard, who has been working on the Tricolored Blackbird, gave a talk on the subject, illustrated by a number of skins. Adjourned.—H. W. CARRIGER, *Secretary*.

JANUARY.—The January meeting of the Northern Division of the Club was held on Saturday evening, January 22, in the lecture room of the Museum of Vertebrate Zoology. The meeting was called to order with Senior Vice-president W. P. Taylor in the chair, and the following members present: J. Grinnell, L. M. Loomis, E. W. Gifford, Ernest Mailliard, Joseph Mailliard, H. S. Swarth, J. Dixon, M. Ray, O. Heinemann, and H. W. Carriger. Messrs. H. C. Bryant, R. P. Shields, and H. C. Tracy were present as visitors. The minutes of the last meeting were read and approved as read. A motion was made and carried that the Secretary cast the unanimous ballot of those present electing to active membership the following, whose names were presented at our last meeting: John J. Dalglish, Morton E. Peck, Earle R. Forrest, F. B. McKennie, E. Arnold, and L. B. Howsley.

The following names were proposed for membership by W. L. Chambers: C. S. Day, West Roxberg, Mass.; W. C. Braislin, Brooklyn, N. Y.; V. Burtch, Branchport, N. Y.; F. S. Wright, Auburn, N. Y.; C. J. Pennock, Kennett Square, Penn.; B. S. Bowdish, Damarest, N. J.; B. A. Arnold, Albany, N. Y.; W. L. Burnett, Loveland, Col. Also G. R. Rossignoe, Jr., Savannah, Ga. by H. F. Duprey; H. L. Bigelow, Chestnut Hill, Mass., and C. I. Clay, Eureka, Cal., by H. W. Marsden; Dr. F. H. Knowlton, U. S. National Museum, by C. W. Richmond; Coleman Jonas, Denver, Col., by R. B. Rockwell; and C. L. Dewey, Whitestone, Long Island, N. Y., by H. S. Swarth.

Nominations for officers for 1910 were declared open. There being no further nominations the election was proceeded with, after which the chair declared the following elected: President, J. Grinnell; Senior Vice-president, R. S. Wheeler; Junior Vice-president, J. Dixon; Secretary, H. W. Carriger; Treasurers, J. E. Law, and W. L. Chambers. The chair was then taken by Mr. Grinnell. The resignation of F. B. Rodolph was presented, and accepted. A proposal to elect Dr. J. A. Allen to honorary membership in the Club was presented, signed by seven active members.

A report from Mr. W. Lee Chambers was read and accepted, and the Secretary was instructed to write Mr. Chambers extending the thanks of the Club for the able work he has done. A letter from Mr. Wm. Dutcher of the Audubon Society was read, relative to the alleged destruction of sea birds on the Farallones by dogs belonging to the light-house keepers, and the Secretary offered to attempt to secure further information on the subject.

Mr. Joseph Mailliard read an interesting paper on the blackbirds of California, illustrated by photographs and specimens, which was afterward discussed by the members present. (See *antea*, p. 63.) Adjourned.—H. W. CARRIGER, *Secretary*.

SOUTHERN DIVISION

JANUARY.—The January meeting of the Southern Division of the Cooper Ornithological Club was held on Thursday, January 27, 1910 at Room 1, City Hall, Los Angeles. The meeting was called to order by President Morcom and in the absence of Secretary Law, Howard Robertson was elected Secretary pro tem. The minutes of the December meeting were read and approved. Allyn G. Smith, Redlands, California, was duly elected to active membership. The name of Gaylord K. Snyder, Stanford University, California, was proposed for membership by V. W. Owen. The resignation of Lester Black of Bloomington, Indiana, was read and action thereon was postponed until the February meeting.