

devise and manufacture his own, and some of them have been described in the ornithological literature. Such a stand must be light and attachable to a strong tripod or other support; it must be adjustable, so that the camera may be placed at any angle and held rigid.

At least two such stands have been described within the last year. Both have been designed for botanical work, but would serve the ornithologist equally well. In *Knowledge*, for October, 1911, Mr. Somerville Hastings describes and illustrates one, a "tilting table," as he calls it. In the *Botanical Gazette*, for March, 1911, Mr. Harry B. Shaw describes and illustrates another one along similar lines.

Shaw's apparatus, however, permits a much wider range of adjustment, and is longer and much better adapted for a long-focus camera. As an *adjustable* stand it is far ahead of anything so far offered by the large manufacturers of photographic apparatus. These stands can be secured, built to order, from Mr. Frederick Carl, an expert model-maker (address, 623 H. Street, N. W., Washington, D. C.) at a cost of from \$12 to \$15. The writer obtained one toward the end of last season, and, although it was too late to put it to much use, it is thoroughly satisfactory in its mechanism.

T. C. STEPHENS.

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## Publications Reviewed

Birds of Arkansas. By Arthur H. Howell. Bull. No. 38. Biological Survey. 1911. 100 pp.; 1 map, 6 plates, 4 text cuts.

This is a very welcome addition to faunal literature from a region which has been little known. In the words of Mr. Henshaw, Chief of the Biological Survey, "This report fills an important gap in our knowledge of the avifauna of the Mississippi Valley." Following a general survey of the state, with its "Physical Features" and "Life Zones," a general discussion of the "Economic Value of Birds," the "Game Resources and Legislation," "Sources of Information," and a statement of the "Number of Species" actually recorded, which is 255, and a statement that probably 300 species and subspecies occur, the "List of Species" is given. Under this heading some 35 species are given in parenthesis, which should certainly be found in the state, but which the limited number of observers has not made it possible to record. The most notable contribution to the ornithology of the state in recent years has been made by Mrs. L. M. Stephenson, of Helena. Mr. Howell made an extended survey of the state from April 28

to July, 1910. It seems to us unfortunate that the A. O. U. nomenclature should not have been consistently followed. Fortunately there is no doubt about what form is meant in any case because both the vernacular and scientific names are employed. For instance, while one might be in doubt about the form intended by the use of *Junco hyemalis* the doubt is at once dispelled when we read "Slate-colored Junco." the vernacular name being as distinctive as the repetition of the *hyemalis* in the scientific name. The report is most timely and welcome.

L. J.

A Biological Survey of the Sand Dune Region on the South Shore of Saginaw Bay, Michigan. Prepared under the direction of Alexander G. Ruthven, Chief Field Naturalist, Michigan Geological and Biological Survey. Publication 4, Biological Series 2, 1911. 347 pp., 1 map; XIX plates.

The part of this report relating to the birds was prepared by Norman A. Wood and Frederick Gaige. The time spent in the region covered was from June 13 to August 27, 1908. "It may be seen from this itinerary that three distinct localities were studied: the sand region between Sand Point and Hat Point, Stony Island, and the clay country at Rush Lake. In the sand region the habitat conditions are dominated by the sandy soil. The ridges are covered with open growths of jack pine and the swamps with dense growth of maple, cedar, etc., or with grasses and sedges. The clay country at Rush Lake, on the other hand, is largely taken up with open fields." The listed species are 128 in number, the most of them with copious and interesting annotations. 83 are given as breeding in the region, with four additional species as doubtful breeders.

The statement is made that migrants began to appear about August 1. This seems strange when we remember that at Point Pelee, Pelee Island, and Cedar Point, the migrations were well advanced by that time, the first migrating Shore Birds having been recorded as early as the first of July. The later beginning here on the east side of Saginaw Bay may probably be accounted for by a large body of water to the north and east and the rather isolated position of this land mass.

These detailed studies which the University of Michigan is undertaking are welcome additions to our knowledge of living forms.

L. J.

The Home-life of the Osprey. Photographed and Described by Clinton G. Abbott, B.A., Associate of the American Ornithologists' Union, with some Photographs by Howard H. Cleaves, As-

sociate of the American Ornithologists' Union. With Thirty-two Mounted Plates. London. Weatherby & Co., 326 High Holborn W. C. 1911. Small 4to. 54 pp. 32 plates. For sale by Brentano and by Forest and Stream Pub. Co.

The studies upon which this volume are based were largely conducted on Gardiner's Island, where this regal bird is not only a familiar object but unwary as well. The value of the studies is greatly enhanced by the admirable half-tone prints accompanying, and their manner of arrangement. Studies of this sort are needed for practically all of our birds. We welcome it as a contribution to our knowledge of one of our most interesting birds of prey.

L. J.

University of California Publications in Zoölogy. There are before us and unacknowledged a number of contributions to ornithological literature which have been issued under this caption. They are here presented in the order of their publication.

Vol. 5, No. 5, pp. 275-281. 1 text-figure. December 31, 1909. A New Cowbird of the Genus *Molothrus* with a note on the probable genetic relationships of the North American forms. By Joseph Grinnell. The new form is described as *Molothrus ater artemisiae*, Nevada Cowbird. The range is given as practically coincident with the range of the sage-brush (*Artemisia tridentata*)—"Upper Sonoran and Transition zones of the Great Basin region of the western United States."

Vol. 5, Nos. 8, 9, and 10, pp. 307-320. Pl. 30. February 21, 1910. Two Heretofore Unnamed Wrens of the Genus *Thryomanes*. By Joseph Grinnell. The new forms being described as *Thryomanes bewicki mariensis*, Nicasion Wren, whose range is "The humid coast belt north of the Golden Gate and San Francisco Bay, in Marin and Sonoma Counties"; and *Thryomanes bewicki catalinae*, Catalina Island Wren, of Santa Catalina Island.

The Savannah Sparrow of the Great Basis. By Joseph Grinnell. This is described as a new species under the name *Passerculus sandwichensis nevadensis*, Nevada Savana Sparrow.

The third number is concerned with "A Second Record of the Spotted Bat (*Euderma maculatum*) for California"; also by Joseph Grinnell.

Vol. 5, Nos. 11 and 12, pp. 321-428, Pls. 31-34, 9 text figs. March 1910.

Mammals of the 1908 Alexander Alaska Expedition, with descriptions of the localities visited and notes on the flora of the Prince William Sound Region. By Edmund Heller.

Birds of the 1908 Alexander Alaska Expedition, with a note on the avifaunal relationships of the Prince William Sound District. By Joseph Grinnell. The Prince William Sound Region is the scene of the studies upon which this paper is based. Included among the 89 forms listed as having been found are six new sub-species as follows: *Canachites canadensis atratus*, Valdez Spruce Grouse; *Lagopus rupestris kelloggae*, Montague Rock Ptarmigan; *Ceryle alcyon caurina*, Northwestern Belted Kingfisher, *Dryobates pubescens glacialis*, Valdez Downy Woodpecker; *Passerella iliaca sinuosa*, Valdez Fox Sparrow; *Penthestes rufescens vivax*, Valdez Chestnut-sided Chickadee. Copious notes accompany the descriptions of the new sub-species and the mention of each other species. The paper closes with a discussion of the "Composition of the Prince William Sound Avifauna, Discussion of Its Origin," and of "Melanism in the Endemic Species."

Vol. 6, No. 13, pp. 285-312. December 28, 1910. Significance of White Markings in the Birds of the Order Passeriformes. By Henry Chester Tracy. This paper was reviewed on page 137 of Vol. XXIII, The Wilson Bulletin.

Vol. 7, No. 3, pp. 173-177. February 18, 1911. An apparent Hybrid in the Genus *Dendroica*. By Walter P. Taylor. The probably hybrid described here is between *Dendroica coronata* and *D. auduboni*.

Vol. 7, No. 4, pp. 179-195. February 18, 1911. The Linnet of the Hawaiian Islands; A Problem in Speciation. By Joseph Grinnell. The case here discussed is one of the reduction of the intensity of color from crimson through orange to yellow, due, the author concluded, to a change in habitat and to insularity, the insularity doubtless resulting in inbreeding and consequent "deficiency in capacity" to produce the more intense color.

Vol. 7, No. 5, pp. 197, 199. February 18, 1911. The Modesto Song Sparrow. By Joseph Grinnell. *Melospiza melodia mailliardi*. A new subspecies described.

Vol. 7, No. 8, pp. 309-311. August 24, 1911. Description of a New Spotted Towhee from the Great Basin. By Joseph Grinnell. *Pipilo maculatus curtatus*, Nevada Towhee. Another new subspecies described.

Vol. 7, No. 9, pp. 313-318. Description of a New Hairy Woodpecker from South-eastern Alaska. By H. S. Swarth. *Dryobates villosus sitkensis*, Sitka Hairy Woodpecker. Range: South-eastern Alaska.

Vol. 7, No. 10, pp. 319, 436, pls. 7-12. February 14, 1912. Field Notes on Amphibians, Reptiles and Birds of Northern Humboldt County, Nevada. By Walter P. Taylor. Four Amphibians, eleven

Reptiles and 103 Birds are here recorded, many of them accompanied with copious annotations. We notice with some surprise that the word America preceeds Coot, Barn Swallow and also Magpie. In the last case it seems more defensible in order to distinguish it from the Yellow-billed Magpie. We also note the use of the word Eastern in reference to *Tyrannus tyrannus*, which seems to us entirely proper when *Tyrannus verticalis* is called Western Kingbird.

Vol. 10, No. 1, pp. 1-124, pls. 1-14. February 13, 1912. Report on collection of Birds and Mammals from Vancouver Island. By Harry S. Swarth. The collection was made by the author with the assistance of Mr. E. Despard. The collecting began on April 24 and closed on September 28. 111 birds and 20 mammals are here recorded, accompanied by interesting and valuable annotations. Mr. Swarth is an adept at making collections and carrying away facts relating to the lives of animals.

This series of papers from the Zoölogical department of the University of California indicates in an incomplete and feeble way what it is doing toward securing an accurate picture of the animal life of that incomparable coast region. If every state university was as wide awake to its possibilities in the same line of work the time would not be long until we would have at hand the preliminary surveys of the animals of the whole nation as a basis for the more intensive studies which we may see just ahead.

L. J.

#### SMITHSONIAN MISCELLANEOUS COLLECTIONS. Volume 56.

No. 25. Descriptions of Seven New African Grass-Warblers of the Genus *Cisticola*. By Edgar A. Mearns, Associate in Zoölogy, U. S. National Museum. "This paper is the fifteenth dealing with the results of the Smithsonian African Expedition, under the direction of Col. Theodore Roosevelt." The paper is concerned only with descriptions of the new forms, two of which are full species.

No. 27. A New Kingfisher from Panama. By E. A. Goldman. This new form is appropriately named *Ceryle americana isthmica*, since the type is from Rio Indio (near Gatun), Canal Zone, Panama.

No. 28. Description of a New Species of Sun-bird, *Heliomypha raineyi*, from British East Africa. By Edgar A. Mearns.

No. 30. A New Subspecies of Ptarmigan from the Aleutian Islands. By A. C. Bent. This is described as *Lagopus rupestris sanfordi*, Tanaga Ptarmigan collected at Tanaga Island, Alaska during Mr. Bent's 1911 expedition to the Aleutian Islands.

No. 32. Notes On Birds Observed During a Brief Visit to the

Aleutian Islands, and Behring Sea in 1911. By A. C. Bent. "We sailed from Seattle on May 19, and took the inside passage north to Ketchikan, where we remained a few days to take on some spar buoys, and from there we sailed out through Dixon Entrance and nearly west across the Pacific Ocean to Unimak Pass. We entered the Pass on June 4, anchored for the night at Akun Island and reached Unalaska on June 5. After discharging our cargo and coaling, we started on the western trip and among the Aleutian Islands on June 10, with orders for the *Tahoma* to return to Unalaska on July 1. This gave us less than three weeks in which to explore over eight hundred miles of difficult islands, an undertaking for which three months would have been hardly time enough. We cruised the whole length of the chain, however, and landd on Stka Kiska, Attu, Tanaga, and Adak Islands, besides visiting the western end of Unalaska Island, landing at Chernofski." The "Birds Noted in the Aleutian Islands in June, 1911," comprise a list of 64 species and subspecies, and the "Birds Noted in Behring Sea in July, 1911," 17 species and 5 subspecies. The paper contains many annotations of interest. It seems a pity that more time could not have been devoted to this little known region.

No. 37. Descriptions of Two New Species of Nun Birds from Panama. By E. W. Nelson. These two species were collected on Cerro Azul, Panama (altitude 800 feet), in March, 1911, by Mr. E. A. Goldman. Only a single specimen of each was found.

L. J.

Instinct and Intelligence in Birds. By Professor Francis H. Herrick. Reprinted from the Popular Science Monthly, June, July and August, 1910. Pp. 532-558, 82-97, 122-141. "The instincts of birds may be classed in a general way as (1) continuous instincts, which are needed for the preservation of the individual, such as preying, flight, concealment and fear, however subject to modification through experience, and (2) the cyclical instincts, which are necessary for the preservation of the race."

The cyclical instincts, which of necessity are discontinuous, are given as follows:

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|--------------------------------|---------------------------------|
| 1. Migration to Breeding Area; | 5. Incubation and care of eggs; |
| 2. Courtship and Mating;       | 6. Care of Young in Nest;       |
| 3. Nest Building;              | 7. Care of Young out of Nest.;  |
| 4. Laying Eggs in Nest;        | 8. Migration to Feeding Area.   |

The question as to what causes bring about the recurrence of these cyclical instincts is not discussed. Here is a fruitful field for investigation. It is upon the proper attunement of these cyclical instincts that the continuance of the species depends. Thus

the lack of such attunement in the Cowbird and the European Cuckoo is given as the cause of the parasitic habits of these birds. But in these cases there seems to be no evidence that the nest building member of the cycle is present.

Professor Herrick states that "the whole fabric of instinctive life is subject at nearly every step to the modifying influence of intelligence," yet the discussion seems to be based on the assumption that intelligence at most plays a very small if any part during the period of the bird's life when the cyclical instincts hold sway.

The discussion is timely, interesting, and valuable, and should arrest the attention of all students of birds. L. J.

Life and Behavior of the Cuckoo. By Francis H. Herrick. 23 Figs. Reprint from the Journal of Experimental Zoölogy. Vol. IX, No. 1, Sept. 191, pp. 171-233.

The author was, of necessity, largely confined to the work and writings of others for information concerning the European cuckoo (*Cuculus canorus*), but his own studies of the behavior of the Black-billed Cuckoo "at Northfield, New Hampshire, in July and August, 1908 and 1909," furnished the material upon which the discussion is really based. That the discussion is fairly exhaustive for the breeding season is sufficiently attested by the thirteen main heads in the table of contents, two sub-heads under the topic hatching and six sub-heads under the record of nest life and behavior. Without going into details of the paper it may be enough to briefly summarize the conclusions reached (pp. 232-233). 1. "Cuckoos do not display more intelligence than many other species of birds, the extraordinary acts which many of them perform being sufficiently accounted for by the possession of modified and highly specialized instincts." 2. "The origin of parasitism in many of the Old World cuckoos and American cowbirds is to be sought in the disturbance of the cyclical instincts," particularly in the attunement of egg-laying to nest-building. 3. The irregularity of egg production in the two common American cuckoos might tend toward parasitism were it not for the fact that the young bird leaves the nest when seven days old. 4. A contact stimulus of a disagreeable kind is given as the reason for the eviction instinct of certain Old World cuckoos. 5. "The American black-billed cuckoo is born with rudimentary down which never unfolds. It has strong grasping reflexes, and is remarkably enduring. It can hold by one leg or toe, for a surprising length of time, and draw itself up to the perch with one or both feet, at birth or shortly

after, powers which no other birds in this part of the world are known to display, and which must be regarded as preparatory to the climbing stage soon to follow." 6. The development of the quill stage of the definitive feathers and the preening instinct on the sixth day results in the unfolding of the larger feathers centripetally from their tips on that day. 7. "Fear is attuned to the climbing stage and not to flight . . . and matures with comparative suddenness on the sixth day, or shortly before the bird is ready to climb." 8. "Parental instincts are as strong in the American cuckoos as in thrushes or in passerine birds generally, and there is more indication of retrogression to parasitism in the former than in the latter." 9. The nests are adequate. 10. "When disturbed in its nest-activities, the black-bill has been known to transfer its eggs to a new nest of its own, an action which strongly suggests the practice of the European cuckoo of carrying its laid egg in the bill to the nest of a nurse." 11. "The American species occasionally 'exchange' eggs, or lay in other birds' nests, and when so doing the black-bill has been known to struggle for possession of the stolen nest. Since similar actions have been repeatedly observed in one or another degree, in numerous species, in which no suspicion of parasitism exists, and in all parts of the world, they must be ascribed, in addition to the reasons given above, not to "stupidity or inadvertance," or "a tendency toward parasitism," but to temporary irregularities in the rythm of the reproductive cycle.

This paper represents the sort of intensive study which we must more and more be looking toward if our knowledge of the birds is to progress at anywhere near the same rate in the next score of years that it has in the last score. We particularly commend the field studies in the natural environment of the birds instead of laboratory studies under control. The latter has its important place, of course, but the former has been too much replaced by the latter up to the present time.

On the Olfactory Organs and the Sense of Smell in Birds. By R. M. Stron. From the Hull Zoölogical Laboratory, University of Chicago. Reprinted from *The Journal of Morphology*, Vol. 22, No. 3, September, 1911, pp. 619-660. 4 text-figs., 2 pls.

This paper is the result of a series of carefully conducted experiments with ring doves placed in a labyrinth where various odors were employed to test their olfactory sense, supplemented by studies of and dissections of the olfactory lobes and nerves and the nasal chambers, on the part of the author, and an exhaustive



review of the work already done by others. "The author agrees with Edinger ('08a), that a sense of smell should be expected to occur in birds," and "with Turner ('91), that the great reduction of the olfactory organs which has occurred in the higher birds would seem to indicate that the development of keen vision in birds is being accompanied by a degeneration of the olfactory sense which may result in its total loss, eventually." "In the author's judgment, the results of the ring dove experiments warrant the conclusion that the behavior of some birds at least may be affected by olfactory stimuli." The paper thus furnishes a refutation of the contention that birds have no sense of smell, but it leaves open the question as to how large a part this sense plays in the life of the bird.

L. J.