THE BREEDING BIRDS OF THE VICINITY OF BLACK BAYOU AND BIRD ISLAND, CAMERON PARISH, LOUISIANA.

BY J. D. FIGGINS.

THROUGH the courtesy and generous assistance of Capt. Wm. E. Lea, of Orange, Texas, the writer enjoyed the privilege of making a brief study of the breeding birds of the regions of Black Bayou, and Bird Island, Cameron Farm, Cameron Parish, Louisiana, during a period of eight days in June, 1919. Owing to Capt. Lea being thoroughly familiar with the location of all important breeding places and the best routes to reach them, the results of the work were far greater than would have been possible under less favorable conditions. Besides the pleasure of expressing my appreciation of the many courtesies extended me by Capt. Lea and the delightful hours I spent in his company, it is due him that recognition be given his successful efforts in protecting the breeding birds of that region.

Black Bayou is a deep, sluggish stream having its source near the Intercoastal Canal and discharging its dark waters into the Sabine River. So tortuous is its course that its length is probably not less than eight or ten times the distance in a straight line between its source and the point where it empties into the Sabine. Previous to the cutting of short canals across narrow strips of marsh, to avoid frequent detours, a mile or more was necessary to make a hundred or two feet of progress in the desired direction. Innumerable laterals, similar in every respect to the main stream, wind equally crooked courses far into the marsh and like the principal channel, are bordered with cypress. The entrances to many of these laterals are masked with floating vegetation, while others present a width, for short distances, that is equal to that of the main bayou. Some are lost to sight entirely, for while much of the contiguous region is under water to a depth of from four to twelve or fifteen feet, the surface is largely covered with a mass of floating vegetation, from which grows "seacane" ten to fifteen feet in height.

During seasons of normal rainfall, there is little firm ground exposed in the immediate vicinity of Black Bayou, but shallows

are indicated at many points by the presence of cypress trees—singly or in small clumps and rarely are these approachable except by crawling on hands and knees at the constant risk of breaking through the floating vegetation.

What little travel there is on the upper portion of Black Bayou is confined to small launches and the pirogue of the alligator hunter, and it is agreed by residents of the region that no one individual is familiar with more than a small section of the bayou and its ramifications—which, in all, amount to not less than one hundred miles in length, probably, much more. It would, therefore, be impossible to more than roughly estimate the number of birds breeding there, though an entire season were devoted to such an investigation. Merely passing through the main bayou is very disappointing to one expecting to see birds in considerable numbers and variety. He will not be rewarded except he follow the venturesome alligator hunter into the numerous laterals and deep recesses where the rookeries are hidden away, for these hunters are the only men who are really familiar with their little section of the bayou and marsh.

To the southeast, the water of the marsh shallows and seacane give place to sawgrass and tules, many flowering aquatic plants such as sagittaria, pickerel weed, lotus, spider lily, yellow and white pond lilies, and occasionally, pink and white mallows. In this form, the marsh extends for miles, with here and there ponds of open water varying in depth from three or four inches to as many feet, except at the points marked by "islands." These are the reverse of the usual conception of the term, for instead of being raised land, they are depressions where permanent water, however dry the season, is productive of a dense growth of cypress, gum and willow. "Bird Island," eight miles east of Black Bayou, is the most prominent and well-known because of the number and variety of birds that make it their breeding place.

Black Bayou forms the approximate western boundary of Cameron Farm, much of which is slightly raised above the general level of the great marsh stretching to the gulf coast and at one time was largely devoted to the cultivation of rice. This cereal attracted large numbers of Redwings, Grackles, Ducks and Geese and so destructive did these birds become, it was necessary to aban-

don the industry and permit the land to revert to its former luxuriant stand of native grasses. This resulted in a reduction in the number of birds that winter there, but from the standpoint of bird life, the loss was more than compensated by a greater area being available for breeding species and an enormous increase in their numbers.

Like much of the coastal plain region of Louisiana, Cameron Farm is marked by the frequent occurrence of low, circular mounds known locally as "blisters," or "pimples"—the result of mud being forced to the surface by escaping gas. As a rule, these mounds do not exceed three feet in height, more often less, and vary in diameter from twenty to a hundred feet. They are bordered with bulrushes and high grasses and are generally covered with shorter varieties of vegetation, over and through which, spreads a tangle of trailing blackberry vines,—the nesting place of such species as Bob-white, Dove, Black Vulture, Meadowlark, etc. Although quite twenty miles from the Gulf, Cameron Farm is but four feet above sea level and since the intervening area is overgrown with very dense aquatic vegetation, drainage is greatly retarded and only during protracted periods of drought does the water in the marshes become exhausted.

It is not improbable this occasional drying up of the water influences the birds, to some extent, at least, in the selection of Bird Island as their nesting place. It is the southernmost of the larger islands and marks the deepest portion of a more or less open slough some miles in length which ultimately merges with the deeper waters towards the Gulf. Thus the advantages of its position are two-fold, for besides the protection afforded them, regardless of how lacking in rainfall the season may prove, the birds are never a great distance from permanent water and a consequent source of food.

Between Bird Island and Black Bayou, and stretching far to the south, is a vast breeding ground of many species of birds that profit by its abundant store of food. Crayfish and several species of frogs and small fishes are very plentiful and underwater vegetation teems with insect larvae and other invertebrates. Such were the conditions and environment I found when visiting the region for the first time, on June 16, 1919, and following is a list of the birds

found in the region treated, together with notes on their breeding habits:

Anhinga anhinga. ANHINGA.—Breeding Anhingas were not as abundant on Black Bayou as conditions appeared to warrant, but many nest there and in the vicinity of Bird Island. At the latter point, the nests were largely confined to the cypress trees, often forty or fifty feet above the water and contained broods of young in various stages of development from birds not over a week old to others nearly ready to fly. Clumps of low willows near the island also contained nests, but no effort was made to learn their contents. Of interest were the habits of these birds when feeding. After diving and remaining under water for a considerable time, instead of coming to the surface, the Anhingas merely exposed the head and after a few seconds renewed their fishing—this being repeated several times. When leaving the water the bird appeared to rise with much difficulty and its flight was labored to a degree.

Phalacrocorax vigua mexicanus. MEXICAN CORMORANT.—On June 20, several cormorant nests containing young were noted. They were placed in exposed positions on small, spreading cypress trees some ten or fifteen feet above the water and associated with nests of Anhingas. This small colony—the only nesting birds observed—was on a lateral arm of Black Bayou about half a mile from the main channel and when first approached, the adult birds were much disturbed. Returning some hours later, during a heavy rainstorm, I found the parent birds very reluctant to leave the nests, where they perched on the windward side with every appearance of an attempt to shield the young from the pelting rain. There was a noticeable variation of the size of the young, similar in every respect to that in broods of young Anhingas.

Anas fulvigula maculosa. MOTTLED DUCK.—If the larger ponds of open water are approached with care and under cover of heavy vegetation, one is generally rewarded with a view of a female Mottled Duck and her brood. At the first alarm, the young dive and swimming below the surface of the water, seek cover, while the mother bird, greatly excited, threshes the water with her wings and makes every effort to attract attention to herself. On one occasion, I came upon a brood of young in water not more than six or eight inches in depth and could easily follow the underwater course of the young by the ripples they created. When in need of air, they thrust the bill from the water barely sufficient to expose the nostrils—always beside some growing vegetation or floating object and after a few hasty breaths, renewed their efforts to escape. These birds are highly susceptible to domestication and when hatched and reared in captivity, may be given their entire freedom if the wing is clipped. Several nests of such examples were found in the first week in February, 1920, and contained one to nine eggs. Half grown young have been observed as early as the first week in April and on June 24, 1919, I saw a brood of newly-hatched young which may indicate that two broods are reared. All of

the nests examined were well concealed beneath masses of dead vegetation and with the exception of that containing nine eggs, feathers and down were not present.

Ajaia ajaja. ROSEATE SPOONBILL.—Dull, indeed, is the person whose interest is not aroused by the sight of a number of Roseate Spoonbills perched upon the branches of a dead tree—a cluster of brilliant gems against a dark background of moss-draped cypress, and overhead, a cloudless sky. Such was my first introduction to these birds on Black Bayou, June 16, 1919. Owing to the fact that the birds had but recently arrived in the vicinity and had not as yet selected a definite breeding place, they were very shy and I had few opportunities to study them carefully.

For some years, the Spoonbills have enjoyed the protection afforded them by Capt. Lea, and from him and various residents of the region, equally familiar with the birds, I was enabled to learn much of interest concerning their breeding habits. Owing to the reliability of these sources of information and so unanimous were their conclusions, I was greatly surprised at Mr. T. Gilbert Pearson's account of his visit to Bird Island, which appeared in the July–August (1920) number of 'Bird-Lore,' page 259. Nor do the discrepancies which are found in Mr. Pearson's second reference to his investigations ('The Auk,' Vol. 38, pp. 516–517) tend to lessen the confusion.

In the story appearing in 'Bird-Lore,' Mr. Pearson states he visited the island on May 18, 1920, and at that time counted eighty-seven Roseate Spoonbills, and examined seventy-five nests containing eggs. In the second account, the number of birds is increased to one hundred and four, and the nests reduced to five. These discrepancies, perhaps, are subject to explanation through typographical errors and to me are of less importance than statements that appear to advance by a full month, or more, the breeding dates of the Roseates in Cameron Parish.

An opportunity to again visit Cameron Parish enabled me to review the entire matter and not the least interesting and productive of results was an interview with Mr. John Carruthers, a state game warden and for years a resident of the vicinity, who accompanied Mr. Pearson to Bird Island on May 18, 1920. This interview was helpful in establishing the number of birds observed and nests examined and seems to show that Mr. Pearson was mistaken in the identity of the nests and eggs. Mr. Carruthers says he personally counted eighty-seven Roseate Spoonbills on that date, while in company of Mr. Pearson.

In addition to this, Mr. Carruthers expressed a doubt if the eggs shown him by Mr. Pearson were really those of the Spoonbills, giving as his reason the fact that the first birds, (three in number) had not arrived in the vicinity until the previous week, or "between May 12 and 15." The evidence seems to show Mr. Carruthers was justified in entertaining such a doubt. Finally, Mr. Carruthers states he took a census of the Roseates on Bird Island in late July, 1920, and counted two hundred adults and

eighty-two nests, the latter containing "very small to a third-grown young." These dates and conditions are verified by correspondence and the investigations of others having an interest in the subject.

When passing through Black Bayou for the first time, June 16, 1919, I noted eleven Roseates perched on a dead cypress and upon making inquiries, learned that the first birds had arrived about three weeks earlier, that being the usual time of their appearance. The next day, five birds were seen at Bird Island, very shy, and left the trees when I was yet some distance away. On June 18, the birds on Black Bayou had increased to twenty-five, the largest number observed on any day during my visit there. Upon dissection of the specimens taken by the party of which I was a member, it was agreed that these examples would not deposit eggs under three weeks—there being little, if any, enlargement of the organs. This appeared to be unusually late in view of Dr. Frank M. Chapman's having found nests and eggs at Cuthbert Island, Florida, as early as March 29. Inquiries were made of Capt. Lea, the local state warden, and alligator hunters, all of whom had spent several seasons in the region of Black Bayou, and since they agree, it appears to be established that Spoonbills do not breed there before late June or early July.

No less an authority and trained observer than Mr. Stanley C. Arthur expresses a doubt if the Spoonbills breeding in the vicinity of Cameron Farm construct their own nests, believing they employ the deserted ones of Herons. Capt. Lea, an equally careful observer, and probably best informed on the subject, entertains a like view regarding the birds breeding on Bird Island, and Mr. John Carruthers makes the definite statement that the Roseates employ deserted Black-crowned Night Heron's nests. Their utilizing old nests may be due, in a measure, to the fact that by the time the Roseates begin breeding on Bird Island, the none-too-plentiful supply of nest material has been exhausted by the thousands of earlier breeding birds. A like condition does not exist on Black Bayou, and it is quite probable that there they construct their own nests. This as it may be, Spoonbills did not begin breeding on Bird Island or Black Bayou until late June either in 1919 or 1920.

Guara alba. WHITE IBIS.—Contrary to expectations, this bird and the Wood Ibis (*Mycteria americana*), were not observed in the vicinity of Cameron Farm, although it is reported to be found regularly in that region. This was due, probably, to my inability to devote more time to the large areas of tules where it is stated they nest.

Ixobrychus exilis. LEAST BITTERN.—The Least Bittern was very abundant along the principal canals and about the margin of the raised land of the southeastern portion of Cameron Farm. Many nests were found in low bushes and generally contained what appeared to be fresh eggs.

Ardea herodias herodias. GREAT BLUE HERON.—This heron is evidently one of the earliest breeding birds on Bird Island—the only point

in the region where nests were observed. When passing the island in February, 1920, not less than seventy bulky structures were seen on the top-most branches of the highest cypresses—then bare of foliage, and several of the many birds present were carrying nest material. The reluctance with which a few of the birds left the nests indicated the probable presence of eggs. My first visit to the island was in June of the previous year, at which time the young were nearly, or quite, full-grown and not a few already on the wing.

Casmerodius egretta. EGRET.—Capt. Lea informs me that this bird appeared at Bird Island only in recent years and for reasons not altogether apparent, has not increased at the rate of other species. This may be due, in part, to the fact that there are not many fish in the marshes of a size preferred by the egret at the time of breeding. Several birds were noted, however, and their lack of shyness suggested the probability that they were then rearing their young. Capt. Lea states it is a more or less regular breeder, but always in small numbers.

Egretta candidissima candidissima. SNOWY EGRET.—Many of the lateral arms of Black Bayou are the breeding places of this Egret. There it generally nests in the cypresses singly, but as many as two or three to a half dozen pairs were occasionally found associated. On Bird Island it breeds very abundantly, too numerous, in fact, to warrant an estimate of their number. In this connection, I would mention that no attempt was made to determine the number of birds and nests at any point visited, either at Cameron Farm, or elsewhere, other than in a very general way. I view the practice as unnecessary and highly doubtful of useful results. Much harm follows such a procedure, both in the destruction of the young and eggs that are dislodged from such frail structures as Egret and Heron nests and through disturbing the shyer species. On Bird Island the nests of the Snowy Egrets were on low willows, as a rule, together with those of the Louisiana and Little Blue Herons, although not a few nested on the cypress trees.

Hydranassa tricolor ruficollis. LOUISIANA HERON.—Many of these birds were nesting in the willows of Bird Island but, owing to their timid disposition, they appeared to prefer the less noisy and more secluded tributaries of Black Bayou. No nests were seen on the main channel of the latter stream, but nearly every lateral revealed a few pairs, singly or in small groups. These were in cypress trees, seldom more than six or eight feet above the water and contained young well advanced (frequently nearly grown), and able to scramble to higher perches when approached.

Florida caerulea. LITTLE BLUE HERON.—At Bird Island, Little Blue Herons were very abundant in late June and many nests containing eggs were observed in the low willows. In a clump of small willows a half mile north of Bird Island, twenty or more birds in immature plumage were associated with a few adults, but a lack of time prevented my making an investigation to determine if they were breeding.

While it has been shown that these birds breed while in the white and mixed plumage, the fact that so high a percentage were isolated, leads me to believe they were non-breeders and this is strengthened by the evidence of frequently seeing like examples at distances of some miles from the Bird Island colony and the absence of adult birds among them. During January and February, 1920, immature birds were noted at frequent intervals about Cameron Farm. At this time only an occasional adult was seen.

Butorides virescens virescens. GREEN HERON.—Green Herons were not noted at Bird Island, nor did I see them on Black Bayou, although they may have been present in both localities. They were observed at intervals along the Cameron Farm canal and one or two nests containing young were noted. Here they nested singly.

Nycticorax nycticorax naevius. BLACK-CROWNED NIGHT HERON.—Like the following species, this bird is a very early breeder, for at the time the Great Blue Herons were noted among the bare trees of Bird Island in February, 1920, the Black-crowned Herons had assembled to the number of several hundred and were then engaged in nest-building. None were seen outside the area of the island at this time, although they breed in less numbers on Black Bayou. On June 16, 1919, many of the young were able to fly.

Nyctanassa violacea. YELLOW-CROWNED NIGHT HERON.—The young of this and the preceding species are considered a great delicacy by many persons in Louisiana and at the rate they have been killed in the past, it is astonishing so many have survived. They nested sparingly on both Black Bayou and Bird Island in 1919 and young were already on the wing by middle June.

Grus mexicana. SANDHILL CRANE.—To the alligator hunters who occasionally venture to the south of the area of "islands," the nest and eggs, or young, of the Sandhill Crane are not exceptionally rare. Examples may also be found on the "ridges" south of Bird Island, but it is far from common there or elsewhere in that immediate vicinity. I did not observe this bird personally, but in July, 1919, I received an account of a nest having been found which contained well-advanced young.

Rallus crepitans saturatus. LOUISIANA CLAPPER RAIL.—At points where bulrushes form a growth over a considerable area, especially near the margins of ponds, or along canals, this rail is quite abundant. Like most of its relatives, it is very difficult to flush and is more often heard than seen. Nearly grown young were observed during late June.

Ionornis martinicus. PURPLE GALLINULE.—Rarely would one wade the open portions of the marsh for more than a short distance without flushing one or more pairs of these birds. Many newly-constructed nests were noted and on several occasions these were found to contain sets of fresh eggs. On June 17, a brood of newly-hatched young were seen to leave the nest and hastily secrete themselves in a nearby growth of sagit-

taria. As a rule the nest is composed of a mixture of dry and green vegetation arranged upon a dense growth of live grass or sagittaria and invariably, from my personal observations, is built over the water.

Himantopus mexicanus. BLACK-NECKED STILT.—This is an uncommon bird on Cameron Farm but one or two pairs were seen daily in a field where corn was grown the previous year. They were very noisy and two broods of young were discovered in late June, one being but lately incubated, while the others were probably a third-grown.

Oxyechus vociferus. KILLDEER.—Killdeers were met with frequently about Cameron Farm during the latter half of June, and from their actions, there was little doubt of their having eggs or young.

Colinus virginianus floridanus.—FLORIDA BOB-WHITE.—At the highest point on Cameron Farm, two or three Bob-whites were noted on several occasions. They were decidedly lacking in shyness and the female gave no sign of the presence of young. This, coupled with the repeated whistling of the male, and the fact that he was generally in the company of the female, conveyed the impression that breeding had probably not advanced beyond the stage of egg-laying.

Tympanuchus americanus attwateri. ATTWATER'S PRAIRIE CHICKEN.—I was unable to discover evidence of this now rare species, but was informed two or three pairs had been seen at frequent intervals during the previous winter and spring.

Zenaidura macroura carolinensis. MOURNING DOVE.—The mound-like patches of ground on Cameron Farm are employed as nest-sites by the doves, where it is far from a common species although a few were observed and two nests containing eggs were noted.

Cathartes aura septentrionalis. TURKEY VULTURE.—Seen singly on two or three occasions.

Coragyps urubu. BLACK VULTURE.—Black Vultures are not only very abundant in the vicinity of Cameron Farm, but are the most destructive agents to bird life, especially in the region of Bird Island. Employing the neighboring mounds above referred to as nest-sites, numbers of these birds may be seen about the heron rookery and it is a frequent occurrence to observe a vulture with a struggling young heron dangling from its beak. The destruction of young birds from this source is great and from like observations at other points, I am convinced that the use of a small caliber rifle on the vultures would be highly beneficial in bird protection, if employed at the time the nests contain young—a period when the adults are unlikely to be greatly disturbed.

In regions where cattle raising has replaced the cultivation of rice, the Black Vulture is credited with considerable damage to the herds by tearing the eyes from calves at the time of birth and instances are cited of a like treatment accorded cows while in a weakened condition. I personally saw one of these tear the tail from a small pig and was informed that the practice was of too common occurrence to excite comment. It is, there-

fore, not surprising that these birds are very unpopular and accounts for the frequent finding of their carcasses.

Haliaeetus leucocephalus leucocephalus. BALD EAGLE.—There are several nests of this eagle on Black Bayou and during January and February, 1920, two pairs of birds were observed on several occasions. The reluctance with which one pair left the nest upon my visit to the vicinity led to the conclusion they were either incubating or young had already appeared. Neither adults nor young were seen in the region during the latter part of June, 1919, and since they were known to have bred there that season, it is presumed that the young had left the nest.

Cerchneis sparveria sparveria. SPARROW HAWK.—A single example of this species, a male, was observed several times at one point on Black Bayou, but I am unable to say if it had a mate.

Ceryle alcyon alcyon. BELTED KINGFISHER.—The presence of Belted Kingfishers during the nesting season, in a region so devoid of the usual nest-sites of these birds, prompted the conclusion that they were non-breeders. Since the time of my visit there, however, evidence has come to light which suggests the possibility of their employing cavities in trees when vertical banks are not available.

While conversing with a young man, the son of a rancher living near Denver, a Kingfisher perching nearby introduced the subject of these birds. I inquired if he had ever found the Kingfisher's nest and he stated that he had frequently seen them going into holes in banks, but that they sometimes laid their eggs in holes in trees. This statement led to close questioning and as the account he gave of a Flicker having excavated a hole in a willow and the Kingfisher taking possession was so obviously sincere, I found no reason to doubt its accuracy. The presence of the birds in a flat, marshy country, many miles from any bank that might possibly serve as a nest-site is of interest and the proposal of their nesting in hollow trees is made here as a suggestion for future investigation, rather than as a definite assertion to that effect. They were not rare on Black Bayou, and I believe this points to the possibility that they may have been nesting in hollow stubs of cypress. I have frequently noted Kingfishers in similar environment and believe the subject to be worthy of careful observation.

Dryobates pubescens pubescens. SOUTHERN DOWNY WOODPECKER.—One specimen of this woodpecker was seen on Black Bayou on a number of occasions and, as it was always observed at the same point, it is quite probable that it may have been a breeding bird.

Colaptes auratus auratus. FLICKER.—A Flicker was seen on two or three occasions when passing through Black Bayou, though it is possible this may have been a single individual. No excavations were noted, but this does not signify it is not an uncommon breeding bird.

Chordeiles virginianus chapmani. FLORIDA NIGHTHAWK.—Nighthawks were extremely abundant about the higher portions of Cameron

Farm. From their actions it was apparent they were then mating. During very high water in the marshes, cattle resort to the mounds above referred to for bedding or resting and the apex of many of these mounds is bare of grass. It is reported such locations are employed by these birds as nest-sites.

Tyrannus dominicensis. GRAY KINGBIRD.—This species is extremely abundant along the canals and drainage ditches and in fact at most points where there are low bushes. The Cameron Farm canal and the southern margin of raised land appeared to be favored localities and to my surprise, they avoided the many willows of considerable size and employed low bushes for nest-sites—in many instances the nest being placed less than two feet from the ground or water. At the time of my visit they contained eggs and newly hatched young.

Molothrus ater ater. COWBIRD.—One specimen was the only example noted.

Agelaius phoeniceus floridanus. FLORIDA REDWING.—These birds were very numerous throughout the area of the more open marsh and as a rule constructed their nests in the low bushes lining the canal and ditch banks. Eggs and newly-hatched young were found in most instances.

Sturnella magna argutula. SOUTHERN MEADOWLARK.—Meadowlarks were very abundant on the higher portions of Cameron Farm and fresh eggs were noted on June 20.

Icterus spurius. ORCHARD ORIOLE.—Finding Orchard Orioles far out in the water-covered marshes and nesting on low willow bushes and weed-like shrubbery was a surprise, but not more so than in identical positions along the canals and margin of the raised land, where large willows were plentiful. The nests were poorly constructed and quite unlike those of the Orchard Oriole of the east, rarely more than three feet above the water and in some instances barely escaped the wash of the motor boats passing through the canal.

At the time of my visit to the region, the nests contained eggs and newly-hatched young and so unusual were the habits of the birds that the question of subspecific differences seemed worthy of investigation.

Megaquiscalus major major. BOAT-TAILED GRACKLE.—Throughout the marsh country this species was present in great numbers. At the time of my visit it had already reared its young and numerous deserted nests could be found among the tules marking small depressions in the marsh.

Cardinalis cardinalis cardinalis. CARDINAL.—A single male was noted several times on Cameron Farm canal.

Spiza americana. DICKCISSEL.—Not uncommon on the dryer portions of Cameron Farm. Males were in full song and, although no nests were seen, it is probable these birds were breeding.

Geothlypis trichas ignota. FLORIDA YELLOW-THROAT.—Several noted on Cameron Farm, where it no doubt breeds.

Mimus polyglottos polyglottos. MOCKINGBIRD.—One frequently heard singing about the residence on Cameron Farm.

Thryothorus ludovicianus ludovicianus. CAROLINA WREN.—Seen and heard in song on several occasions.

Sialia sialis sialis. BLUEBIRD.—Capt. Lea reports the Bluebird as a not infrequent summer resident on Black Bayou, but lacks definite information as to its breeding there.

Denver, Colorado.

EIGHTH ANNUAL LIST OF PROPOSED CHANGES IN THE A. O. U. CHECK-LIST OF NORTH AMERICAN BIRDS.

BY HARRY C. OBERHOLSER.

This is the Eighth Annual List of proposed A. O. U. 'Check-List' additions and changes in the names of North American birds. Like the seven already published,[1] the present list comprises only ornithological cases—i. e., such as require specimens or the identification of descriptions for their determination—and consists of additions, eliminations, rejections, and changes of names due to various causes. However, only changes known to be the result of revisionary work are included; therefore no mention is here made of changes involved in names in local lists or elsewhere, used without sufficient explanation or not known to be based on original research, of changes or additions queried or but tentatively made, or of the elimination of subspecies by authors who, on general principles, recognize no subspecies. Furthermore, no opinion beyond that of compiler is herein expressed.

This list is intended to include everything pertinent up to December 31, 1922, and nothing after that date has been taken. In view of the volume and widely scattered character of current ornithological literature, it is not at all unlikely that some names or changes have been overlooked, and the writer would be very thankful for reference to any omissions, in order that such may be duly given a place in next year's list.

[1] For these previous lists, see 'The Auk,' XXXIII, October, 1916, pp. 425–431; XXXIV, April, 1917, pp. 198–205; XXXV, April, 1918, pp. 200–217; XXXVI, April, 1919, pp. 266–273; XXXVII, April, 1920, pp. 274–285; XXXVIII, April, 1921, pp. 264–269; XXXIX, April, 1922, pp. 243–249.