

THE ORIOLE

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No. I

A NESTING STUDY OF THE TYBEE ISLAND HERONRY

By DON EYLES

During the summer of 1937 the writer was employed by the National Park Service and was stationed at Fort Pulaski Monument on Cockspur Island, Chatham County, Georgia, directly across the Savannah River from Tybee Island. Tybee Island or, more specifically, Goat Point Heronry is situated on Tybee Island about twelve miles east of Savannah. It is located on the northwestern point of the island at the junction of Lazaretto Creek and the south channel of the Savannah River. Its situation is remarkable in that the body of the rookery is within 250 feet of both the Savannah Beach Highway and human habitation. Being stationed so close by, the writer was able to spend considerable time in the heronry during the months of June and July.

The wooded area in which the heronry is situated has had an interesting history. In the area several of the batteries that breached Fort Pulaski during the War Between the States were located. At present only old earthworks are to be found in the area. They are grown up in a jungle and are in the heart of the heronry. The influence of the batteries on the vegetation which developed will be noted later.

Practically no early accounts of the rookery are available. If the herons had used the area in 1862 the U. S. Army would certainly have mentioned them in their reports as the breaching of Fort Pulaski was accomplished during the early part of the breeding season. Probably the trees now situated on Goat Point have originated since then and possibly the upset of natural conditions occasioned by the construction of the batteries was responsible for the growth of the trees. Mr. Gilbert R. Rossignol states that thirty years ago only Green Herons nested in the area. The writer wonders if perhaps the herons referred to by Mr. Rossignol were not really Little Blue Herons. The tract was established as an Audubon sanctuary in 1931.

The composition of the vegetation of the woods in which the rookery is located is very simple. Only two herbaceous plants were found in the body of the woodland. The darkness of the woods, owing to the thickness of the evergreen cover, is probably responsible for the scarcity of herbs. Following is a list of plants collected in the heronry by the writer. Scientific names are from Small's Manual of Southeastern Flora.

Trees: **Ilex vomitoria* Ait., "Cassena;" **Quercus virginiana* Mill., "Live Oak;" **Sabal Palmetto* (Walt.) Todd, "Cabbage-palmetto;" **Zanthoxylum*

Clava-Herculis L., "Prickly Ash;" *Bumelia tenax* (L.) Willd., "Buckthorn;" **Sabina* sp., "Red Cedar;" **Cerothamnus ceriferus* (L.) Small., "Wax Myrtle;" *Melia Azedarach* L., "China-berry."

Shrubs: *Phytolacca americana* L., "Poke;" **Serenia repens* (Bartr.) Small., "Saw Palmetto;" *Callicarpa americana* L., "French Mulberry;" *Lantana Camara* L., "Shrub Verbena."

Vines: *Smilax* sp., "Green Briar;" *Phenianthus sempervirens* (L.) Raf., "Scarlet Woodbine."

Herbs: *Cyperus globulosus* Abul.; *Pteridium latisculatum* variety *pseudocaudatum*, "Bracken."

All species marked with an asterisk are evergreen. The last named of the trees is definitely not native. The above constitutes a total of sixteen species of which twelve are trees and shrubs. The dominant is *Ilex vomitoria* with a bit of *Quercus virginiana* encroaching on it at the eastern end of the area.

The soil is rich with organic material and is renewed yearly by the droppings of the birds. The surrounding area on at least three sides is the characteristic coastal salt marsh. The woods is all above the high tide level and is never flooded. It has been pointed out to the writer that this is unique. The extent of the tract is about 125,000 square feet or about three acres. The composition is uniform, *Ilex vomitoria* predominating with a few large "Live Oaks" (*Quercus virginiana*) breaking this uniformity.

Estimation of the nesting population of the area was one of the most difficult problems to be solved. A complete count was impossible owing to the impenetrable vegetation and the time that would be involved. The method finally used was to count the number of nests in the small isolated southeast portion of the heronry and determine the area of both it and the main body. By a comparison of areas a ratio was worked out and a total estimate of 1,860 nests was arrived at.

These nests were of five species of herons, as follows: American Egret (*Casmerodius albus egretta*), Snowy Egret (*Egretta thula thula*), Louisiana Heron (*Hydranassa tricolor ruficollis*), Little Blue Heron (*Florida caerulea caerulea*), and Black-crowned Night Heron (*Nycticorax nycticorax hoactli*).

The great bulk of the birds was made up of the Louisiana Heron and the Snowy Egret. Numbers of the others were merely estimated. Snowy Egret and Louisiana Heron estimates were arrived at by a more scientific method. It was estimated that four pairs of American Egrets were nesting in the colony; six pairs of Black-crowned Night Herons; and about fifty pairs of Little Blue Herons. If error has been made it would be that of a too conservative estimate of the Little Blue Heron population owing to the close resemblance of the nestlings of that species to those of the Snowy Egret. Counts of a hundred nests of Louisiana Herons and Snowy Egrets gave a result of 56% Snowy Egrets and 44% Louisiana Herons. Thus the numbers of nests of these two species was found to be about 1,000 and 800, respectively.

The bulk of the studies on the heronry were made June 5-21, 1937. Counts made during this period as to egg-young-empty ratios on two hundred nests picked indiscriminately were as follows: eggs, 15½%; young, 33%; empty, 51½%. All nests counted as empties had almost without doubt been used earlier in the season. A great number of young were to

be found in trees unable to fly, but it was impossible to attribute these birds to a specific nest.

Few details of the life histories of the herons in the rookery were determined. The habit of regurgitation, especially in the case of the Louisiana Heron, was noted in birds from about a week old to those on the point of flying. It was also found that on being disturbed birds even as young as a week old would try to crawl out of the nest and in the case of birds two weeks old or better it was exceedingly difficult to catch them. As other writers have stated, not only the feet but also the neck and bill are used in this catch as catch can scrambling from limb to limb. A constant whining is kept up by the very young Louisiana Herons in the nest.

In general the larger herons (American Egret and Black-crowned Night Heron) nested higher and, of course, constructed larger nests than the smaller birds. It was also noted that Louisiana Herons' nests were particularly abundant along the periphery of the area and this concentration was greatest along the north edge. The Snowy Egret predominated in the interior of the woods.

Heights of almost two hundred nests were estimated and the average was found to be about seven feet. This corresponds rather closely to the level of the "Cassena" layer which was generally used for nesting. As to the species of plants used as nesting sites, there was considerable range but at least 90% were in "Cassena" (*Ilex vomitoria*). Other species with small numbers of nests were: *Quercus virginiana*, *Sabina* sp., *Zanthoxylum Clava-Herculis*, *Sabal Palmetto*, and *Smilax* sp.

Nests were constructed principally of twigs and were seldom more than sufficient to support the young. One Little Blue Heron was observed nesting in the variegated plumage.

There is considerable mortality among the nesting herons. Most deaths seemed to be of young birds and seemed to be caused by starvation due to desertion. Young birds were often found hanging in the undergrowth close to empty nests. Many such nests were found with three or four dead herons lying below.

On June 16th an adult Louisiana Heron and an adult Snowy Egret were found apparently uninjured but unable to fly. Evidently they were either internally ill or exhausted physically. On another occasion I released a Snowy Egret adult that had become hung by his feet in the vegetation. He also was too weak to fly. Dead birds were noted on one or two occasions hanging in such a manner, apparently having become entangled and starved to death.

The area used by the nesting birds as feeding ground is unknown but must be considerable for such a large number of birds. Much suitable territory exists for miles in every direction. In a low area north of and contiguous with the heronry were always found numbers of herons after a rain. Apparently the birds gathered there for water as none were observed feeding. With a blind in this area the writer was able to secure several good photographs. Louisiana Herons were found to be least timid, indeed one was found sitting on top of the blind upon one occasion.

The blind was located so close to the heronry that some observations of the feeding of the young herons almost on the wing were made. Parent birds often caused the young to fly to them and sometimes pecked them viciously to make them fly. It was found that a constant chatter is kept up

by the herons even when undisturbed. In this connection the rookery was visited at about 2:00 A.M. upon one occasion and noises were heard at intervals. Nothing like the daylight chatter was heard.

In the evenings especially after the young birds were on the wing the heronry appeared almost snow white with birds. A view of this gave a good idea of the number of birds roosting in the area if it was kept in mind that almost as many dark birds, invisible at a distance, were also present.

About forty young Louisiana Herons were banded and it is hoped that some light upon the migrations of birds from this heronry may be obtained eventually.

For about fifteen to twenty or more years following 1885 both the American Egret and the Snowy Egret were slaughtered mercilessly for their plumes. This slaughter was done entirely in the nesting season (the plumes are then in the best condition), thus indirectly destroying both adults and young birds. It is only through rigid protection during the past few years that a notable pickup in numbers of these species has occurred. This heronry is perhaps the largest of the Snowy Egret in the State of Georgia and it is highly important that these birds be permanently protected.

THE PLACE OF SCIENTIFIC COLLECTING IN GEORGIA ORNITHOLOGY

By HERBERT L. STODDARD

Fortunately for those who dislike to collect birds for scientific study, many ornithological investigations can be carried on without this aid. During recent years, however, some have gone so far as to contend that all necessity for collecting of specimens is now past, and that henceforth students armed with traps or binoculars only can carry on all the bird work necessary. Under this belief, pressure has at times been put on State and Federal conservation officials to discontinue the issue of scientific collecting permits; with such success in some cases that legitimate and highly desirable investigations have been seriously handicapped, or stopped.

Granted that the collecting privilege has been abused and even commercialized in some cases by those who never should have been entrusted with permits in the first place, properly qualified students should be able to obtain them without undue difficulty for studies such as the following, where a certain amount of collecting is essential to sound progress:

1st. In life history studies necessary as a foundation for the comparatively new profession of wildlife management. Some collecting is essential in food habits studies even though much worthwhile information can be acquired without the taking of life. Wild creatures are also subject to many diseases, and are harassed by parasites both internally and externally. While external parasites of birds can usually be collected for study from live trapped birds, not all birds can be trapped easily. And it is very necessary to collect specimens to work out the many important problems of internal parasitism and pathology. This is of course especially necessary in the case of important game species.

Not only is a limited amount of collecting necessary in the pioneer studies in this field, but it will continue to be desirable. In this age of rapid transportation reaching into all corners of the Earth, new parasites

and diseases are constantly appearing to menace our valuable wildlife species in a way that has never previously taken place. With the appearance of dangerous disease, work involving the collecting of specimens for study must be undertaken at once in many cases if heavy losses are to be avoided.

2nd. It is true that ornithological knowledge has made great progress in some sections of our country, and many States have splendidly gotten up lists based on a vast amount of detailed study of their bird life. This, however, is not the case in Georgia, which has no real State list at all, and but comparatively few active ornithologists. Here collecting will long be essential if a firm foundation of ornithological knowledge is to be built up. For instance, several subspecies of a single species often occur simultaneously either as migrants or winter residents. If we are to know what races occur, and where and when, collecting of specimens for comparison and study must be carried on, for the majority of subspecies cannot be satisfactorily differentiated in life.

In other cases even species are difficult, if not impossible, to identify with certainty "in the bush." I refer especially to certain of the smaller flycatchers, though some of the thrushes, shorebirds, and warblers in Fall present serious difficulties. These birds give trouble to all except the most expert of field observers, and it should not be overlooked that these experts almost invariably acquired their exceptional knowledge through the handling and comparison of specimens.

3rd. It is an accepted rule, with comparatively few allowable exceptions, that specimens of each species entitled to a place on a State list must be collected, and preserved so that other students can verify the determinations. Occasionally sight records of well marked species have been so accepted, only to be questioned by workers of a later generation.

For these and other reasons a limited amount of careful collecting, carried on with seasoned judgment, should not only be tolerated, but encouraged by all interested in our science.

Collecting permits should, however, be issued only to accredited students with the best of references and after the most careful investigation, and rare and vanishing species should as a rule be excepted. Skins of specimens collected should be expertly preserved in a way that will insure immunity from the ravages of insects and time. This requires skill, which however can be acquired by practice on such birds as English Sparrows and crows. Crops and gizzards should be removed in most cases and saved for food habits studies, while parasites should be preserved for the study of specialists. In some cases, blood slides should be prepared in cooperation with investigators in avian malaria and similar diseases.

Promiscuous killing is never justified, and the specimens taken should be put to as many uses as possible. In some places it is required that skins of birds collected under scientific permit be ultimately deposited in Museums or other scientific institutions equipped for their proper care, and where they can be freely studied by all who have need. This is probably a legitimate requirement. While private collections may be worth while during the lifetime of the owner, they should be willed to scientific institutions, for all too frequently they are destroyed after the death of those who built them up. Much more could be said on this subject, but it would seem unnecessary. It is to be hoped that the newly organized Georgia Ornithological Society will look upon legitimate collecting from a broad and scientific viewpoint, and encourage under proper safeguards such collecting as is essential to sound ornithological progress.

NOTES AND NEWS

Below is printed the program of the third semi-annual meeting of the G. O. S. A. A blank for making reservations has been sent to each member. All members will find it profitable to attend this meeting and become acquainted with others interested in Georgia birds.

GEORGIA ORNITHOLOGICAL SOCIETY

THIRD SEMI-ANNUAL MEETING

South Georgia State Teachers College—Statesboro, Georgia

April 23 and 24, 1938

Miss Malvina Trussell, Chairman

SATURDAY, APRIL 23, 1938

Registration Upon Arrival at South Georgia State Teachers College.

- 3:00 P. M. Meeting Called to Order.
 Greetings from Statesboro.
 Reports from observers.
 Illustrated talk by Dr. Wallace Rogers.
 6:30 P. M. Informal dinner, Dr. Hugh H. Harris, toastmaster.
 8:00 P. M. Talk on John Abbot by Mrs. Victor H. Bassett.
 9:00 P. M. Business Meeting.

SUNDAY, APRIL 24

- 8:00 A. M. Breakfast at Beechwoods followed by field trip, Dr. R. J. H. DeLoach, leader.

The Birds of Athens, Clarke County, Georgia.—The Georgia Ornithological Society announces the publication as an Occasional Paper, the long anticipated list of the birds of Athens, Georgia, by Thomas D. Burleigh. The notes comprised in this paper cover a period of almost fifteen years of thorough observation and add a great deal of information on the bird life of the state. Almost 230 forms are recorded and several are additional birds for the state list, and our knowledge of sub-specific forms in Georgia is greatly increased by this paper. Lack of space prevents a full review of this work but it is hoped that every bird student in our State will secure a copy and use it in connection with his own notes, as forms, nesting, migration date, and distribution are fully discussed.

This bulletin follows closely on the publication by The Charleston (S. C.) Museum of the work by Dr. Eugene E. Murphey entitled *Observations on the Bird Life of the Middle Savannah Valley, 1890-1937*, which listed 267 forms occurring in the Augusta area of our State and in the portion of South Carolina nearby. In 1933 the Georgia Society of Naturalists published *Birds of the Atlanta, Georgia, Area* by Earle R. Greene listing also about 230 forms found in that part of the state. Therefore, the bird student now has three published lists, with data, to assist in his studies of ornithology. Although there are hundreds of notes on Georgia birds scattered through dozens of books and other publications, it is more satisfactory and easier to use bulletins complete such as these than to wade through the many notes above mentioned. It is hoped that similar publications may be forthcoming on such areas as the extreme northern section, the coastal plain, Okefenokee Swamp, and the Coastal region. There is much work yet for Georgia bird students to do.

Georgia Bird Day—Although there is no official National Bird Day, the schools in Georgia have set aside April 12 to do homage to the host of feathered songsters which not only make life upon the globe possible, but also add immeasurably to our enjoyment of it. Georgia has chosen April 12 because it is about this date when birds begin mating and nesting and it is the time when their plumage is most beautiful and their songs the sweetest.

Due to the varied climate, birds of the hot, cold and warm lands are found here. In the great Okefenokee Swamp and along the coast may be found the semi-tropical heron, Egret, Ibis and the beautiful Nonpareil. The mighty Raven, a native of Alaska, makes his home on the jagged cliffs of Brasstown Bald, Georgia's highest mountain.

It is estimated that three hundred and fifty species of birds find their way into Georgia at some time during the year. Some of them are permanent residents, some are either summer or winter residents, while others only migrate through Georgia on their way north or south.

Birds' are nature's most potent checks upon the undue increase of noxious insects and harmful rodents; they devour the seeds of weeds and act as scavengers. The more we learn of their food-habits, the greater becomes the realization of our indebtedness to them, and of the importance of protecting them.

The Mocking bird, the operatic singer of birddom, is with us all the year, and sings practically every month in the year. He has no rival, and he seems to have the utmost confidence in his powers. He gives us scornful imitations of other singers, then comes joyously back to his own numbers, as if to say, "surely you can see the difference." Only on moonlight nights does he seem to lose his self-consciousness and give up his best music. Then there are no competitors, and his singing is superb.

The Catbird, too, is something of a mimic, but not so accomplished in this line as the Mocking bird. The latter often receives the praise for the Catbird's charming songs, as their performances are similar. Poor Catbird only gets credit for the querulous mew which named him. The birds themselves resemble, but the Catbird is darker with no white markings.

The Brown Thrasher, the state bird of Georgia, shows some traits of his cousin, the Mocking bird. His public appearances, however, are confined strictly to the mating and nesting season. One scarcely associates the brilliant musician over in the edge of the meadow with the shy, brown bird seen slipping through the bushes like a rabbit during most of the year.

The born lover of birdland is the Cardinal. Clinging to the tiptop twig of a budding sweetgum, he flings his ecstasy abroad. So varied is his repertoire that he can use a different song for each mood, though he often gives his calls one after the other as if trying to please each individual with his favorite.

At almost any time during the day, a busy little Carolina Wren may snatch the time to give us his rollicking song. One must be blue indeed not to feel the spirits rising in response to this gay challenge.

Most of us do not realize what profit comes from a little cultivation of bird friends. A small, shallow vessel of clear water brings new birds to visit and bathe in our gardens and yards, and a few bread crusts or a little cracked grain or peanuts regularly offered for birds will quickly transform a lawn into a small bird sanctuary with interesting results.

Georgia is blessed with an inheritance of many of America's most fascinating and handsome birds and their protection and care will afford pleasure and profit to our people. Like any true friend, the more we know them, the better we love them. It is a challenge that we must not fail.—Berma Jarard, 54 Briarcliff Circle, Atlanta, Georgia.

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Editors—DON EYLES EARLE R. GREENE
Box 555, EMORY UNIVERSITY, GA.

Advisory Editors:

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EDITORIAL

In order to make The Oriole the medium of bird information to the students in the state, thereby increasing its usefulness, and also to place it among the leading ornithological journals in the South, the Editors are asking that all notes of real scientific value which the authors wish published be sent to them as soon as possible. It is believed that a number of ornithologists and students in several sections of our state have accumulated information on the bird life of their respective counties, such as nesting, migration, banding, etc., that will be of great interest to our readers as well as a distinct addition to our knowledge of bird life.

It may be impossible to publish all such records as some such lists that contain nothing new and are merely lists without data enough to be of value, will only clutter up our files. Therefore the Editors will have to reserve the privilege of rejecting what is thought of little value. However we are asking all members of the G. O. S. to check through their files and send in what they have along the above mentioned lines. Records of rare birds in the state are especially acceptable. For instance it is not well known that there are eight or ten records of Golden Eagles in Georgia. Specimens and definite sight records of all kinds may be forwarded to us. What do you know about Bachman's Warbler, the Limpkin, Ivory-billed Woodpecker, Kirtland's Warbler in our state? Let's have it. One of the leading ornithologists of the country states that a good test of sight-record is where a person knows definitely his bird without reference to a text book.

Let's all get together to make The Oriole the most comprehensive bird journal in this section.

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