

me the Letter promised me by the president of the U. S., for, as I have not yet had it, I somewhat fear that it has been missent.

Write to me at once, and believe me,

Your friend, John J. Audubon.

AUDUBON'S RECOMMENDATION OF BAIRD.

New York, July 30, 1842.

Knowing, as I do, Spencer F. Baird, Esq., as a Young Gentleman well qualified to assist in the arrangement, description, etc. of the specimens of Natural History brought home by the Exploring Expedition, and deposited in the National Institute at Washington City for the purpose of being published and thereby rendered useful to the world of Science; I take great pleasure in recommending him as a most worthy, intelligent, and industrious student of Nature, both in the field and in the museum, and I would feel great satisfaction in hearing that our Government had employed him in this national and important undertaking.

John J. Audubon.

NESTING HABITS OF THE HERODIONES
IN FLORIDA.

BY A. C. BENT.

Plates XIX-XXI.

(*Concluded from p. 29.*)

Botaurus lentiginosus. AMERICAN BITTERN.

This species seems to be sparingly but generally distributed throughout the fresh water marshes of Florida, where it undoubtedly breeds. We did not find any of its nests but, as we spent very little time in suitable localities, this is not strange. We flushed a few American Bitterns from the saw-grass marshes on

the St. Johns River and from similar locations on Merritts Island. It probably nests in the saw-grass with its small relative, the Least Bittern, where its nest must be securely hidden.

In Monroe County, where there are practically no fresh water marshes south of the everglades, we failed to see an individual of either species of Bittern.

***Ardetta exilis.* LEAST BITTERN.**

We found this little Bittern a common resident in all suitable localities — fresh water marshes — in Florida that we visited. It is so shy and retiring in its habits and so hard to flush that we undoubtedly overlooked it many times; if we had spent more time in exploring the saw-grass sloughs we should probably have found it very abundant. None of the birds that we saw seemed to be referable to Cory's Bittern.

We found nests containing fresh eggs in the St. Johns marshes on April 18 and 22 and on Merritts Island on April 26, 1902, four nests in all. The nests were all built in tall, thick tussocks of fine grass, higher than a man's head, growing in saw-grass sloughs. The nests were merely crude platforms of straws, measuring about 7 by 4 or 7 by 5 inches, well concealed in the centers of the tussocks and from 24 to 30 inches above the ground or water; they were exceedingly frail structures, barely able to hold the four bluish white eggs. Boat-tailed Grackles generally frequent the same localities as the Least Bitterns. In a small slough, about 30 yards square, on Merritts Island we found two nests of the Bitterns and five nests of the Grackles.

***Ardea occidentalis.* GREAT WHITE HERON.**

Since the days of the illustrious Audubon very little has been written about this magnificent Heron, the grandest, the hand-somest, and the shyest of its tribe. Its range within the United States is confined to the extreme southern coast of Florida and the mangrove keys, where it is really abundant and forms a striking feature in the landscape. It is no uncommon sight to see ten or twelve of these great birds standing in the shallow water



FIG. 1. GREAT WHITE HERON, HALF-GROWN YOUNG.



FIG. 2. GREAT WHITE HERON, FULL-GROWN YOUNG.

around the shores of some small estuary, patiently awaiting the approach of their prey, as motionless as white marble statues. When not fishing they may be seen perched on the outer branches of the mangroves, their pure white plumage standing out in marked contrast against the dark foliage, making them very conspicuous even at a great distance.

It is utterly useless to attempt to approach them at such times, for their eyesight, as well as their hearing, is very acute; they are extremely shy and will fly at the sight of an approaching boat half a mile away. It is almost as difficult to approach them on land, even under the cover of the mangroves, where the slightest noise will send them flying away croaking hoarsely. Only once was I able to outwit them, on one of their favorite roosting keys, where, after stalking them fruitlessly for several hours, I finally concealed myself among some thick underbrush and awaited their return; I was rewarded by securing two fine specimens as they flew over on their way to their evening roost. In all their movements they are deliberate and dignified; in flight they are slow, direct and powerful, with steady strokes of their great wings, the head drawn in upon the shoulders and the long legs stretched out straight behind.

On several of the Keys we found empty nests of large Herons, some of which were probably referable to this species, but we found only one of their breeding colonies. This was on one of the Oyster Keys where on April 29 we discovered a small rookery of half a dozen pairs of Great White Herons and one or two pairs of Ward's Herons. The key was very small, less than an acre in extent, of the mud key type with a little dry land in the centre, overgrown with a thick tangle of underbrush; the usual strip of red mangroves occupied the whole of one end of the island where we nearly overlooked the little colony of nests which were all grouped about a small inlet or bay. The Herons had all left the island, silently and unobserved, long before we landed, and an occasional glimpse of a great white bird in the distance was all we saw of the parents of the helpless young, whose identity fortunately was beyond question. A Ward's Heron flew over us within gunshot, but the Great White Herons never came anywhere near it.

There were four nests of the Great White Heron, all on the outer ends of the horizontal branches of the mangroves, over the water and from 10 to 20 feet above it. The nests, much resembling those of the Great Blue Heron, were large flat platforms of large sticks, smoothly lined with coarse twigs and dry mangrove leaves. The only one that I measured was about 35 by 28 inches outside, and the inner cavity about 15 inches in diameter. This nest contained two eggs and one young bird, just hatched, covered with white hair-like down. A nest near by held two young, about one quarter grown, and one added egg. Another nest contained three young birds, about half grown, pure white and very pugnacious; they bristled up their plumage, squawked and snapped their bills vigorously, while their throats were vibrating rapidly as if panting from fear or excitement; sometimes they would lie on their sides as if completely exhausted, panting rapidly all the time. They objected decidedly to having their picture taken and refused to pose at all gracefully.

The most interesting nest of all was about twenty feet up on the outer end of a leaning red mangrove and the two large white birds in it could be plainly seen from the ground; they were nearly fully grown, fully feathered and pure white all over, almost indistinguishable from adults. When I climbed the tree one of them stood up in the nest and posed gracefully in dignified silence, while I took as many photographs as I cared to of the beautiful picture.

The eggs of the Great White Heron are not distinguishable from those of the Ward's Heron in size, shape or color, though they are somewhat larger than those of the Great Blue Heron; the only two I collected measured 2.67 by 1.84 and 2.60 by 1.81 inches; they are of the usual heron's egg color, pale greenish blue. But the young are always distinguishable by their pure white color from the day they are hatched.

The Great White Herons are well able to take care of themselves, as they are very difficult to shoot and not in demand for millinery purposes. Their rookeries are small and too much scattered to offer much temptation to nest robbing negroes.

Ardea herodias wardi. WARD'S HERON.

The southern representative of the Great Blue Heron is one of the characteristic birds of Florida and for so large a bird is decidedly abundant; especially so along the Indian River where it is usually the first of the Herons to be seen; as the train runs along close to the river, just above Titusville, the shore seems to be lined with Ward's Herons, standing like sentinels at frequent intervals or flapping lazily away for a short distance; sometimes one will scale along on motionless wings close to the water until it can drop its long legs down and alight on some favorite bar. While fishing it stands quite motionless for a long time, waiting for its prey with dignified patience, well becoming the largest member of its group. In general habits it closely resembles its northern relative, but it is not so shy as the Great Blue and not nearly as difficult to stalk as the Great White Heron.

I believe the Ward's Heron is evenly distributed all over the State of Florida and is everywhere common. We found them breeding in small willow hammocks on the prairies of the interior and in the larger willows along the St. Johns River, where nests with newly hatched young were found on April 21. The nests were bulky affairs, made of large sticks about like those of the Great Blue Heron, and were placed in the largest willows, about 10 or 12 feet from the ground. They do not nest in colonies here, or elsewhere that I have observed them, but the nests are scattered about singly or in disconnected groups. The young are grotesque and homely, being but scantily covered with filamentous down of a dirty grayish color.

In Monroe County we found them breeding with the Great White Herons in small numbers and we saw them or their empty nests on many of the keys. Here their nests were built in the red mangroves or on the tops of bushes, never more than half a dozen or so in a group. We found only one occupied nest in this region, which on April 29 contained two small young; the nest was about 25 feet up in a red mangrove in the Great White Heron colony. Both of these large Herons are early breeders and, as we generally saw both species together, it was impossible to identify the many nests from which the young had flown.

Probably the young learn to fly soon after leaving the nest, for we found no young birds in the trees about any of the nests, as we did with all of the smaller Herons.

Herodias egretta. AMERICAN EGRET.

This beautiful plume bird is, I am sorry to say, fast becoming a rare bird in Florida, though it still occurs in small numbers all through the interior of the State. It is by no means wary, is so strongly attached to its home and is so courageous in the defence of its young that it has been an easy matter for the plume hunters to annihilate rookery after rookery. In Brevard County we visited two localities, small cypress swamps, where the year before large breeding rookeries of Egrets existed, but not an occupied nest was to be seen and only two or three scattering birds flying off in the distance. On the upper St. Johns we saw a few American Egrets but found no nests. It is known here as the "big white heron" and can be distinguished at a distance from the Snowy or Little Blue Herons by its slower and heavier flight. Undoubtedly a few Egrets still breed in this region in the rookeries with other species.

In Monroe County we found the American Egrets breeding sparingly in the large rookeries with the White Ibises and the smaller Herons. Among the 4000 birds at the Cuthbert rookery we counted 18 American Egrets and found seven nests. The birds were very tame, constantly alighting in the trees near us, and we could easily have killed as many as we wanted, but the A. O. U. warden, Mr. G. M. Bradley, who acted as our guide, was so solicitous for their welfare that we refrained from shooting a single bird; one wounded bird, unable to fly, was the only specimen we obtained. Most of the nests were in the low red mangroves over the water, but one was near the top of a black mangrove on a horizontal branch 15 feet from the ground.

The nests were about as large as Night Heron's, loosely and poorly made of coarse sticks and not as smoothly lined as most Heron's nests. Three of the nests held eggs, one set of two and two sets of three, of the typical color, light greenish blue varying in intensity. The other nests had young of various ages, from

one quarter to two thirds grown, covered with pure white down until the white plumage appears.

The young were very precocious, even when half grown, leaving the nest at the slightest provocation and climbing nimbly over the surrounding branches ; it was surprising to see how fast and how far they could travel without falling ; they were so lively that it was a difficult matter to photograph them successfully.

I cannot too strongly urge the necessity of protecting this species and its smaller relative, the Snowy Heron, if they are to be saved from utter extinction. These two are the principal sufferers from the destructive persecution of the plume hunters ; but, fortunately for them, they are now so rare everywhere, except in the most inaccessible localities, that it hardly pays to hunt them ; though an increased demand for aigrettes at higher prices might prove disastrous. Under adequate protection, with a thorough posting of the rookeries and with strict enforcement of the very good laws now in force, there are probably enough Egrets left to partially restock their former haunts.

***Egretta candidissima.* SNOWY HERON.**

What I have already said about the disappearance of the Egrets is also true of this species. Although once very abundant all through Florida it has now been nearly exterminated, comparatively speaking, but I am hopeful enough to think that the work of destruction has been checked in time to save this beautiful species from extinction. There are still a few Snowy Herons left in the big rookeries of the upper St. Johns, and a number of them still breed in the more inaccessible rookeries of the Cape Sable region. In the former locality we spent all of one day and part of another in the largest of the rookeries at Braddock Lake, where hundreds of Louisiana Herons and many Little Blue Herons were breeding, trying to identify the nests of the various species among which were a few Snowy Herons. We were unable to determine how many of this species were nesting there and I succeeded in positively identifying only two nests of the Snowy Heron. This rookery was on a small muddy island, in

the middle of the great marsh, covered with a thick growth of small willows from 12 to 15 feet high.

Although all three species of Herons were very tame, alighting on the trees all about us, they were very careful not to settle down on to any of the nests within sight of us; it was only by lying for hours carefully hidden under some thick clumps of large ferns that I was able to satisfactorily identify a few nests. The first nest of Snowy Herons, containing four eggs, was placed 8 feet up in a slender willow and was merely a flimsy platform of small sticks. The second nest held five eggs and was located only 5 feet up in a leaning willow; it was made of larger sticks and lined with fine twigs. Neither the nests nor the eggs of the Snowy Heron are in any way distinguishable, so far as I could determine, from those of either the Louisiana or the Little Blue Herons. It is necessary to see the bird actually sitting on the nest to make identification sure; even then young Little Blue Herons in the white phase are liable to lead to confusion and it is necessary to see the black legs and yellow feet or the graceful plumes of the Snowy Heron. We did not see any Snowy Herons anywhere except in the breeding rookeries and even there they were very shy.

Hydranassa tricolor ruficollis. LOUISIANA HERON.

This beautiful and graceful little Heron is by far the most abundant of its family in all sections of Florida that I have visited. Fortunately its beauty is not expressed in plumes, hence it has escaped the merciless persecution of the plume hunters; but it is not without plumes, such as they are, which may lead to its destruction when the white aigrette supply is exhausted. Like all the small Herons its flight is light, rapid and graceful, the head drawn in upon the shoulders and the legs stretched out behind. While fishing it stands erect and motionless until some small fish swims within reach, when it crouches down close to the water, takes a few rapid steps forward and darts out its sharp bill like a flash, usually catching the fish near the surface.

We found the Louisiana Heron breeding very abundantly on the upper St. Johns; sometimes they were in rookeries by them-



FIG. 1. NEST OF LOUISIANA HERON.



FIG. 2. NEST OF LOUISIANA HERON.

selves and sometimes in company with Little Blue and Snowy Herons, where all the nests held eggs during the latter part of April. In the big rookery at Braddock Lake, referred to above, the Louisiana Herons occupied all the central portions of the rookery, forcing the other species into the outskirts. Their nests were built in the willows in every available spot and at every height from 2 to 12 feet above the ground, often several nests in the same tree; they were neatly and well made of small sticks and smoothly lined with fine twigs. Most of the nests contained four or five eggs and one held six. The eggs were practically indistinguishable in size, shape or color from those of the Little Blue or Snowy Herons.

As evidence that they do not always live in perfect harmony with their neighbors, I saw, while lying concealed in the rookery, a Louisiana Heron alight on a Little Blue Heron's nest and deliberately poke the eggs out on to the ground, with her bill, one after another; the owner of the nest did not appear during the process. All of the smaller Herons suffer from the depredations of the Fish Crows which are constantly sneaking about in all the rookeries ready to pounce upon and devour, or fly away with the eggs as soon as the owners give them a chance.

In Monroe County we found the Louisiana Herons everywhere abundant, breeding in all the inland rookeries as well as on many of the mangrove keys. At the Cuthbert rookery they formed at least half of the colony, where we estimated that there were about 2000 of them. Here they occupied the centre of the rookery filling all the trees with nests, most of them from 6 to 12 feet from the ground in the black and red mangroves, a few being in the 'buttonwoods.' At the time of our visit, on May 1, fully three quarters of the nests contained young birds of various ages. The young bird is covered at first with dark gray filamentous down; the down on the head soon forms a prominent upright tuft of wood brown hairlike filaments, giving the young bird a very curious expression; later on, as the bird attains its growth, it begins to assume the white breast plumage of the adult, starting as a narrow line down the centre of the breast and neck. When about two thirds grown the young begin climbing out of the nests and along the branches of the trees; they are quite expert at this

and can cling on quite tenaciously with their big awkward feet and bills. But they often pay a severe penalty for their precocity by falling and becoming entangled. Their parents seem unable to help them in such predicaments, as we saw a number of their dead bodies hanging by one foot from the edges of the nests.

Florida cærulea. LITTLE BLUE HERON.

Next in abundance to the Louisiana Heron comes the Little Blue, with which it is intimately associated and practically identical in distribution. Both species have escaped destruction by the plume hunters, for the same reason, the lack of marketable plumes, and they are very much alike in general habits. They fish in the shallow waters along the shores of the Indian River and in most of the small pond holes in the interior. They are very active while fishing, walking about constantly but standing erect occasionally and darting straight down upon their prey. Birds in the blue phase predominated, but we saw a great many in the white phase even in the breeding rookeries.

On the upper St. Johns we found them breeding commonly on the willow islands with the Louisiana Herons, but never in rookeries by themselves. So far as we could judge, from what few nests we were able to identify and by watching them rise from their nests as we approached the rookeries, the Little Blues always nested in the smaller willows on the outer edges of the islands. The nests were usually placed very low down, mostly from 2 to 4 feet from the ground, in small trees or bushes or on the lower branches. Their nests and eggs were practically indistinguishable from those of the other small Herons and positive identification was difficult, as they were very shy about alighting on their nests, though tame enough in other respects.

In Monroe County we saw Little Blue Herons feeding in all the shallow estuaries and lakes and found them breeding in the big rookeries with other species. Their nests here also were confined to the outskirts of the rookeries where they were bunched together in compact groups. We did not find them breeding on any of the keys.

There is little danger, under the protection now afforded them,

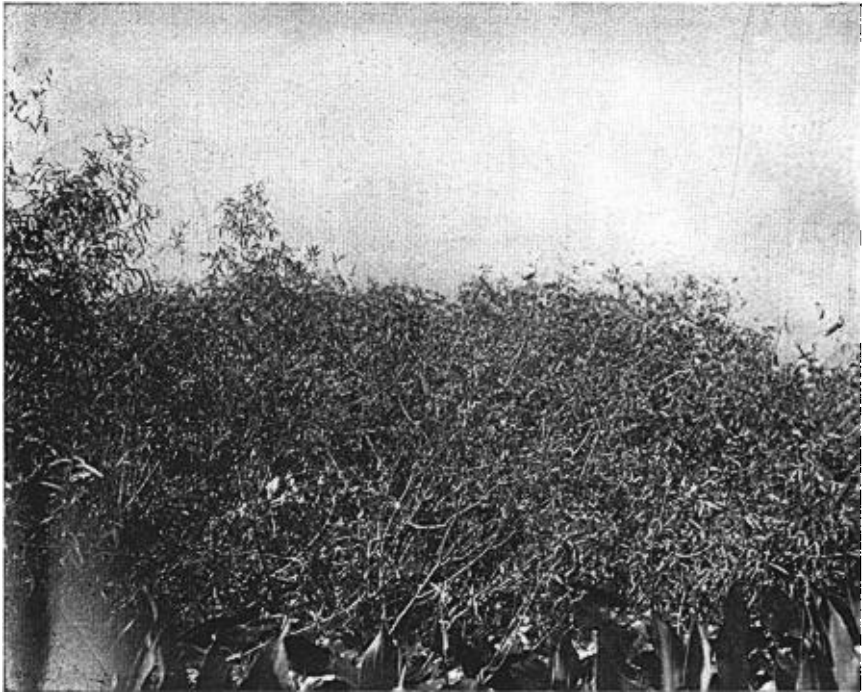


FIG. 1. LITTLE BLUE HERON ROOKERY.



FIG. 2. NEST AND EGGS OF YELLOW-CROWNED NIGHT HERON.

that either this or the preceding species will be exterminated for many years to come, though the young are taken from the nests for food by the natives of southern Florida.

***Butorides virescens.* GREEN HERON.**

The status of this widely distributed species is about the same in Florida as elsewhere throughout its range. It is nowhere abundant but evenly distributed in all suitable localities. We found scattering pairs of Green Herons breeding on Merritts Island and in the interior of Brevard County, nesting in little clumps of willows about the small pond holes. A few were seen on the upper St. Johns and a few in Monroe County, among the keys as well as along the streams in the interior. Among the hosts of other interesting species we paid but little attention to the Green Herons and noticed nothing new about their nesting habits, which are practically the same here as elsewhere.

***Nycticorax nycticorax nævius.* BLACK-CROWNED NIGHT HERON.**

I shall not prolong this paper with an account of this well known species. It is enough to say that we found it nearly everywhere that we went. A few Black-crowned Night Herons were breeding in the rookeries with other species on the St. Johns River, one or two pairs in almost every rookery. In Monroe County it was fairly common in the interior. We started a flock of about 75 birds off one of the keys where they probably had a fair sized breeding colony, though we did not have time to explore it.

***Nyctanassa violacea.* YELLOW-CROWNED NIGHT HERON.**

This handsome Heron was nowhere very common in the regions we visited, though, I believe, in certain sections it is quite abundant. In its full breeding plumage it is a striking and con-

spicuous bird. It is by no means shy, especially near its nest, where it will stand in the top of the nearest tree silently watching the intruder.

There were one or two pairs of these birds in nearly every rookery on the St. Johns, but in spite of our efforts, we succeeded in finding only two of their nests, both on April 21.

The first nest was on the outer edge of the rookery on a leaning willow and only four feet above the water. It measured 20 by 16 inches, was made of large sticks and lined with fine twigs; the five eggs in it were on the point of hatching, some of them already pipped, so we contented ourselves with photographing it while the bird was flying about anxiously. The second nest was within a few yards of a Ward's Heron's nest, these two being the only nests in the vicinity; it contained two eggs and two young birds, scantily covered with grayish down; it was placed 8 feet from the ground in a small willow, near the end of a long narrow island.

In Monroe County we saw a few Yellow-crowned Night Herons on the inland streams, both young and adult birds, but found no nests.

Although not much in demand for its plumes, it is so tame and unsuspecting that it should be protected, especially from the natives among whom both of the Night Herons are highly esteemed as food.



THE RHYTHMICAL SONG OF THE WOOD PEWEE.

BY HENRY OLDYS.

THE usual phrases of the Wood Pewee are well known. The bird sings so persistently through the summer, when most birds are silent, that its melancholy rising and falling tones are familiar to all that frequent the woods during the milder season. But that these detached phrases are combined into a rhythmical song, uttered during the twilight hours of morning and evening, is a fact that seems generally to have escaped observation.

I first heard this interesting utterance in 1894, and not again,