

THE NESTING OF THE BLACK DUCK ON PLUM
ISLAND.

BY CHARLES SLOVER ALLEN.

(Plates I and II.)

ALTHOUGH having an area of but a few hundred acres, Plum Island is so varied in its topography and so rich in bird life that it proves a most interesting little world of its own. The narrow eastern portion consists of high, rocky, upland pastures, without a tree or bush. In the miniature valleys each tiny pond has its pair of noisy Killdeers whose nearest neighbors are the Plovers on the hillside and the Nighthawks breeding on the rocky ledges. The whole north shore forms a long, irregular sand cliff of considerable height, thickly studded with huge glacial boulders; some stranded on the beach were thirty feet high, while others showed great rocky masses far out in the water. Prior to 1885, when 'Old Jerome' still owned the island and his law of absolute protection was in full force, there were but few of these boulders that were not crowned with Fish Hawks' nests, to which the Kingfishers paid their visits, like the minstrels of old to the castles of the Vikings. The Swallows had located their colonies in the lesser sand banks of the southern shore that gradually became a broad beach with low scattered sand hills to the westward where the island broadened out into a great rolling sandy plain. Terns were breeding in the drift and sedge close to the beach at South Point. As everywhere else upon this island, Fish Hawks were nesting here by the hundred, on the few isolated and dwarfed trees, and on the ground wherever there was a little sand hill or by the side of each convenient stump, stake, or piece of stranded timber. Sandpipers, Meadowlarks, Sparrows and the like were fearlessly nesting within a few yards of them. Even in the densely populated strip of fairly heavy timber, some eight or ten acres in extent, the Fish Hawks were on the very best of terms with all their smaller neighbors, save only the Crows that represented the criminal element of this community. and a large rookery of Night Herons that persisted in occupying that swampy corner of the woods that merged into and were in part surrounded by the great fresh water marsh in the centre of the island. In this marsh it was that I finally found my

Black Ducks (*Anas obscura*) breeding among the numerous small islands and open places of clear water.

During my first visits to Plum Island in 1879 and 1881 Mr. Jerome and the lighthouse keeper made frequent mention of the fact that a pair of Wood Ducks and several pairs of Black Ducks had been frequently seen, both in this swamp and in a salt water marsh nearer the beach during the spring and summer for several years. In spite of diligent search I merely caught a hurried glimpse of them once or twice and utterly failed to locate their proper address. May 25, 1885, while wading through this swamp in search of Rails, I crossed a narrow bushy little island. I was startled by a peeping sound and a scramble under my feet and a glimpse of a moving line of brown and yellow balls, a dozen or more in number, that instantly vanished. I spotted the hiding place of the last unfortunate duckling and finally captured it after an exciting chase. I caught a glimpse of the parent bird just vanishing behind an island of grass near by, but in spite of over an hour's dilligent and minute search where every leaf was turned, I utterly failed in seeing another of the young and in flushing the old bird, though the young ones were calling all around me. Nor could I find that particular nest during my stay, although I found two others, with eggs just hatching, on the 27th. The first I discovered by fairly stepping upon the old bird while on the nest, which was so boldly located that I never thought of searching anywhere near it. The marsh lay directly in line and midway between Jerome's house and the tilled land, orchards, and sheep barn a mile away, on which a Fish Hawk had its nest. As it was a long way around, a causeway had been built through the centre of this swamp, as a short cut, some thirty years before. From some historic event it was called Love Lane. After the trees had grown up along its sides, each had its bulky Fish Hawk's nest, with numerous families of Grackles as subtenants and boarders. At the further end of this causeway, where all was open and the pasture began, there was a small isolated clump of myrtle five feet in diameter, extending from the wheel track to the water's edge. Twice a day the farm hands, with oxen and wagons, stumbled through one edge of this patch and the wheels broke down the twigs, while the Black Duck was on the nest but three or four feet away. I had brushed through it many times when on my way to search the hidden recesses of the swamp.

Early in the morning, May 27, I saw a Rail dodge into this little clump from the water's edge, and in trying to find it I stepped into the Duck's nest, flushing the bird and partly breaking one of the eleven eggs it contained. They were uncovered, though embedded in down, and several were already pipped. The old bird soon came back to the marsh and suddenly appeared in the clear water from behind some bushes and tried to entice me away. After cutting away some of the branches concealing the nest I started back along the causeway so as to bring my camera from the lighthouse. I had gone but a hundred yards or so when another Black Duck appeared swimming in a clear patch of water far out in the centre of the marsh. It vanished behind a grassy ridge and then took wing. Although I had no boots I waded out and examined a tuft of bushes and grass far back in the direction from which the Duck was swimming. This bird had undoubtedly been startled by the outcries of the first, and had quietly left her nest, only showing herself when at a distance. In this nest, fairly covered with down, were four young already hatched and not dry as yet, and six eggs rapidly hatching in the hot sun. When I returned to this nest with the camera an hour later, every egg had hatched and nothing but the empty shells remained. I could find nowhere the slightest trace of the birds, young or old.

I was very careful in approaching the first nest and stood watching the actions of the bird while she was preparing to leave the nest. For nearly a minute she seemed busy with the eggs and the down under her, as though partially covering them up. Then she silently slipped into the water, diving just behind a tuft of grass. The water was so shallow and clear that I could plainly watch her as she swam under water close along the edge of the causeway, instead of going out into the wild canals of the marsh. She came to the surface with a wild outcry some distance beyond me and close to the path. I dropped everything and followed, while she kept fluttering in apparently the most helpless manner, and even struggling as though drowning, but a few feet away. She seemed to realize that I would not follow her out into the deep water of the marsh, so she still kept along the edge of the causeway, gradually increasing her distance from me and recovering from her crippled state, until she finally swam behind a bushy island and from there took flight off toward the ocean.

I found the eggs pretty well covered when I went to the nest. In order to let the bird come back I spent over an hour taking notes in the woods the other side of the marsh and in searching for the Wood Duck's nest. On returning I purposely came upon the Black Duck suddenly, in order again to flush her as I had done when finding the nest. The eggs were uncovered to a great extent, one bird was entirely out of the shell and drying, so that the fluffs of down were beginning to break their casings and clothe the little one. Several others were nearly out of their shells, and most of the eggs were already cracked in a circle near one end. While I was photographing the nest and young, the old bird returned, flying high, but after circling lower, alighted in the water a hundred feet away with a sudden loud outcry. When she failed to entice me away, she approached much nearer, and finally crawled out upon the causeway within twenty-five feet, and dragged herself back and forth through the rank grass and down the narrow path as though both wings, and legs as well, were broken. Her mate I never saw, but during the hour that I sat watching the rapid hatching out of the eggs in the hot sun this poor, distressed bird was untiring in her efforts to lure me away, and often approached so near that I could have caught her by a sudden rush before she could have cleared herself from the tall grass.

The plate (Plate I) is a poor one, but it shows the nest, with eggs embedded in the down, and if one looks closely the partly hatched young can be seen.

The exact method adopted by the bird in freeing itself from the shell proved interesting. I will describe the procedure as it occurred in an egg that I took from the nest before the first crack had appeared. While examining it there was evidence of a strong muscular effort on the part of the bird inside, and a small disk of shell was chipped out and raised above the surface at about one third of the distance from the end; then came a second or two of rest, followed by what felt like a scramble inside; then a second of quiet and the horny little knob on the end of the bill was driven through the shell one eighth of an inch to the right of the first puncture. This routine was repeated over and over until some twenty-five or thirty punctures had been made, completely encircling one end of the egg, each being about one eighth of an inch to the right of the preceding one. The efforts seemed

stronger as it started around the same circle again, and the cap of the shell would be lifted a little each time, showing that it was attached by little more than the tough membrane beneath the shell. Before the second circle was half completed, it tore the cap loose so that it could be raised like the lid of a box, with one inch of the membrane acting as a hinge. In freeing itself from the shell the neck was stretched out and the little one breathed for the first time. Then the shoulders were pushed out into my hand, free of the shell, one wing after the other being freed, while the bird lay gasping and gaping widely with its bill. In half a minute more it was entirely free from the shell and lay weak and helpless in the sun, its wet, slimy skin absolutely bare, save here and there small dark hairs widely separated. As it began to dry it gained in strength and made feeble efforts to stand, resting on the whole length of the tarsus. In drying the hairs no longer adhered to the skin. Soon each little pointed hair began to crack and split open, and from this protective casing there came a light fluff of down nearly as large as the end of one's finger. It was more surprising than the bursting of a grain of pop corn, though far less rapid. It took comparatively few of these yellow and brown fluffs to convert the naked weakling into a beautiful downy duckling that stood up boldly in my hand and began to notice what was going on about it, especially the calls of the parent bird close by. Each went through the same procedure, invariably breaking the shell from left to right. They showed no fear and would cuddle under one's hand very confidently.

When I visited the nest late in the afternoon, after they had had a few hours of instruction from the careful mother, they deserted the nest in wild alarm the moment I appeared in sight, and instantly concealed themselves so as to baffle all search, though all were in plain sight an instant before. This nest was close to that of a Fish Hawk of which it showed no fear whatever, though I saw one Black Duck that was flying over the marsh suddenly double up and apparently fall over and over, striking the water as if it had been shot and making an instant dive, as a Red-tailed Hawk came sailing over the treetops.

During the three days I remained on the island I never succeeded in seeing one of these thirty odd ducklings though I more than once heard the old bird calling out warnings to the brood near her.

Three of the eggs that were uncracked were placed in the cool water to delay hatching and carried back to the lighthouse after I had finished watching the other eggs hatch. One egg hatched on the way and I found the bird dead in my pocket, a rather disgusting object, wet and naked, while the others were alive and nearly free from the shells. In the sun they soon became covered with down like the others, but the dead one refused to blossom out under the same conditions. Drying it with alcohol and rubbing with a soft brush caused these hair-like pointed casings to split and come away in segments, giving as perfect plumage as any. My two pets refused to eat and when I tried to feed them with milk gruel and egg from a glass dropper they fought against the procedure with all their puny might so piteously that I was forced to give it up and carry them back to the nest where I left them with the old bird near at hand. Next day I found them there, one dead and the other dying. I was forced to be content with them as specimens. Since then I have carefully watched the hatching of many different kinds of birds, both domestic and wild, and have found their different methods intensely interesting. In all cases nature provides practically the same hair-like cylinders as a water-proof protection to prevent the down from getting wet and matted by the slimy liquids within the egg. In some the process of drying, with the bursting of these sheaths and blossoming out of the bulky down tufts, is very rapid indeed, while others require many hours. Unless thus protected the down of all birds would become a very sorry matted mass before they left the shell, and infinitely more uncomfortable to the bird as this albuminous mass dried and hardened upon the delicate skin. It could never become the same light, fluffy, protective covering to the young bird.

It is an interesting study to note just where and how each different bird cuts through the shell in gaining its liberty, whether around the centre of the egg, or near the base or point, and whether by successive punctures toward the right or left, or more or less irregularly. Each seems to have, within certain limits, the head and armed beak approximately in the same relative position as others of its kind, and it escapes in much the same way. A Heron's egg is broken at a very different place and in a very different manner from that of a Duck, a Quail, or a Snipe. The shape of the egg has likewise much to do with it. I should like

to hear next fall from such as are willing to study the shells left in and about deserted nests, and to watch the process wherever they have the opportunity; also the time required for the down to burst forth from the enclosing sheath or envelope. I have known this to cause a difference of opinion as to whether the young of a certain bird were dark slate-color or pure white, when it was only a matter of the difference of some hours or days in their age. The skin and cylindrical hairs were dark in this case, but the down was white. Each was looking at the other side of the traditional shield.

[Plate II represents the Black Duck Group in the American Museum of Natural History, New York City. The nest, young birds, and accompanying accessories were collected by Mr. Jenness Richardson, on Gardener's Island, New York, May 9, 1889, by whom also the group was mounted at the Museum. This group is No. 46 of the Museum series of bird groups prepared by Mr. Richardson. — ED.]

FIFTH SUPPLEMENT TO THE AMERICAN ORNITHOLOGISTS' UNION CHECK-LIST OF
NORTH AMERICAN BIRDS.

By ORDER of the Council of the American Ornithologists' Union the Committee on Classification and Nomenclature of North American Birds has prepared the following report on the species, subspecies, and changes of nomenclature proposed during the year ending November, 1892, forming the Fifth Supplement to the American Ornithologists' Union Check-List. The Committee met in Washington, Nov. 18-19, 1892, with the following members present: Allen, Chapman, Coues, Merriam, and Ridgway.

The numbers at the left of the scientific names facilitate collation with the Check-List. The interpolated species and subspecies are numbered in accordance with the provision made