

would involve downward rather than upward currents. On another occasion in the late afternoon, there was a waning westerly wind with patches of smooth water. I was astonished at the amount of soaring in so light a breeze. As the breeze became still weaker, altitude was lost and the soaring degenerated into gliding which also ceased when a flat calm ensued. I was unable to rule out the possibility of upward currents of air, but if there were any, they could not have been strong.

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BIBLIOGRAPHY.

¹ Strong, R. M., 1912. Observations on the Breeding Behavior of the Herring Gull. Science, n.s., Vol. XXXV, No. 911, June 14, p. 936.

² Strong, R. M., 1914. On the Habits and Behavior of the Herring Gull. *Larus argentatus* Pont. Vol. XXXI, Nos. 1-2, January-April, pp. 22-49, 178-199. Plates III-X, XIX-XX.

³ Strong, R. M., 1915. On the Habits and Behavior of the Herring Gull. *Larus Argentatus* Pont. Smithsonian Report for 1914, pp. 479-509; 10 Plates.

⁴ Committee on Zoology of the National Research Council—1917. Some Suggestions for National Service on the Part of Zoologists and Zoological Laboratories. Science, Vol. XIV, No. 1173, June 22, p. 627-630.

⁵ Brewster, W., 1912. Notes on the Flight of Gulls. Auk, Vol. XXIX, No. 1, pp. 85-92.

EXPLANATION OF PLATE.

Two Gulls in their third autumnal plumage are shown in Fig. 1. The mottling of the head, neck and breast is noticeable. The beak color has not made any significant progress towards the adult condition.

This cage (Fig. 2) was constructed in sections six feet square which were used for the top, as well as for the sides and ends. These sections are easily assembled, and they are convenient where it is desirable to have the cage stored when not in use.

THE HERRING GULLS OF LAKE CHAMPLAIN.

BY LIEUT. L. R. WOLFE, U. S. A.

Plate XXXVII.

UPON several occasions it had been rumored to me by local residents that the ever present Gulls nested somewhere on small islands in Lake Champlain. An examination of all available publications failed to give me very much information. Mr. A. C. Bent in his well known book states that, "In 1888, Mr. A. H. Jordan found a few pairs breeding on an island in Lake Champlain." I could find no other reference to the Herring

Gulls (*Larus argentatus*) breeding in the Champlain region until, while looking over some old files of 'The Oologist' for May, 1921, some writer who neglected to give his name stated that he had found the Herring Gull nesting on Four Brother Islands. A careful survey of the map disclosed four small islands about three miles from the New York shore while the nearest village was Willsboro. At once I planned to make a trip to these islands and on the morning of May 18, 1922, I left Plattsburg by train, arriving at Willsboro about eight o'clock. Repeated inquiries resulted in little information as no one seemed to know very much about the Gulls and no one had ever been to the islands. It was finally suggested to me that I go about three miles north of town to the estate of the Hatch Brothers as they had furnished food for a man to stay on the islands the previous summer. Arriving at the Hatch estate I met Mr. Livingston Hatch, stating to him that I had heard that the Gulls nested near there and that I would like to make a trip over to the islands. Mr. Hatch was very friendly and obliging; he told me that the Four Brother Islands belonged to his father, Mr. Edward Hatch, who had always had a great deal of interest in the Gulls and that for several years past he had personally hired a man to stay there and protect them during the breeding season. However, they had been unable to engage anyone this year. He was kind enough to offer me the services of his row boat and I was only too glad when just as I was pushing off he concluded to accompany me.

After about a half hour's rowing we neared the first and largest island, we were greeted by the screams of several hundred Gulls as they circled overhead. As we landed and pulled the boat up on the beach most of the Gulls left the island, going either to one of the other islands or flying off up the lake. We walked around the shore line and then made two or three circles across the center.

This island is of about six acres in area, nearly level and some thirty feet in elevation, there being a nearly perpendicular bank of twenty to thirty feet near the shore line and the comparative level surface covered with an open growth of scrub pine, juniper and a scant covering of grass. Near the east shore there is an old and dilapidated shack and several chicken coops. The shack had been used by the protector and Mr. Hatch said the coops

had been placed there originally to keep chickens but that Black Ducks had nested in them regularly for several years. They were vacant at this time, though several Ducks were seen in this vicinity. The bird population of this island was fifty-two occupied nests of Herring Gull. A few nests contained only one egg, some two eggs but the most of them three eggs. Nearly all were well advanced in incubation, except in nests with one egg, which seemed to be fresh and sets incomplete. In two nests the young were just emerging from the shells. At one nest there were two eggs from which the young were just breaking the shells, and one little fellow not over a day old. As we stood nearby, he climbed out of the nest and tried to hide under a piece of driftwood; he was replaced in the nest but persisted in crawling out and trying to hide. This was true of all of the young that were found; some seemed to be only a few hours old but were quite active and always would try to hide. The young are covered with a soft down, in color a light buff, shading to nearly white on the underparts, the head, back and wings are thickly spotted with dots of black. There was a diversity of ideas as to nesting sites, some were down close to the edge of the water, many at the top and a few feet back from the edge of the bank in open ground while other nests were close beside a stump, rock or fallen tree. The prevailing nesting material was seaweed, moss and grass. Many nests were very shapely and well built. Other birds noted were Spotted Sandpipers (*Actitis macularia*), about fifteen pairs were seen but no nests were found as it was doubtlessly too early in the season. There were estimated to be 150 Tree Swallows (*Iridoprocne bicolor*) on the island and various pairs seemed to be trying to find a possible nesting site. There were no hollow trees or stumps, but several nests were seen in cavities behind roots in upturned trees. Another site that was quite unusual was behind loose pieces of shale along the banks and just over the water. This bank was about 45 degrees in slope. The two nests found here were not completed, the composition being of grass stems and a few feathers. I succeeded in getting a picture of one Swallow just as it lit in front of the nest with a piece of nesting material in its bill.

After a survey of this island we rowed to the next which is some five hundred yards to the east. This is about four acres in area, is a gradual slope from the water on the south side to an abrupt cliff of fifty feet on the northeast and east sides. The surface is nearly flat and with a few large trees. As we landed the Gulls left, as on the first island, going either to one of the other islands or back to the colony we had left. This seemed to be the center of the Gull population; we counted 142 occupied nests; most of these were along the cliff, either on a narrow ledge at the edge of the water or at the top of and not over two or three feet back from the edge; this was the favorite location. However, there were some exceptions, several nests were seen that were on level ground and some distance from any obstacle, some beside pieces of drift and others under a bush or fallen tree. When we would sit down and be quiet for a little while the Gulls would soon start returning to the nests and seemed invariably to take a position on the nest where they would be facing the water. Frequently as one covered the nest the other, apparently the mate, would stand close by, both facing the lake and enjoying the view. As soon as we would move they would leave the nest, with several screams, make a circle or two over us and then leave the vicinity. There were about twenty pairs of Spotted Sandpipers on this island but no Tree Swallows.

From here we went in turn to the other two islands; these are both somewhat smaller than the second, and rugged, with high banks at the shore and nearly covered with pine and juniper bushes. Besides the Gull population on each island we found a Black Duck's (*Anas rubripes*) nest. The first contained twelve eggs that were just hatching, the young emerging but none completely out of the shells. This nest was in the center of a thick juniper bush, a depression in the ground with a base of grass and down. Down also around the sides of the nest in such quantity that after the female had left the nest the eggs could hardly be seen. This duck sat so close that we were within a few feet of her before she flew. The second nest contained three eggs and some broken pieces of shell; it had evidently been deserted for some reason or other. This nest was also in the center of a juniper bush, but there was no down around the nest. So it is evident



Photos by L. R. Wolfe

1 AND 2. HERRING GULL NESTS, LAKE CHAMPLAIN.
3. TREE SWALLOW AT NESTING CAVITY.

that the quantity of breast feathers is gradually built up as incubation proceeds. One pair of Loons (*Gavia immer*) were at home on the smallest island, but after a long search we could find no nest and I concluded it was perhaps too early in the season.

A survey of the four islands gave us a count of 284 occupied nests of the Herring Gull, as there were some places on the last two islands that we could not reach it was estimated that there were 325 nests in the colony. The favorite nesting site and the majority of nests were at the top of and a few feet back from the edge of a bank, cliff or steep slope. The second choice of location was beside a rock, stump, piece of drift or any article that was handy. Other nests were under an overhanging ledge and along a shelf near the water. Still others were on open, level ground or on an open sandy beach. Where the nests were beside any object they were always smaller and usually just a depression lined with grass and moss. Where they were located in open spaces and at the top of the banks they were large, well shaped platforms of weed stems, grass, seaweeds and moss, from four to eight inches high, slightly oval in shape and varying from eight to twelve inches across the longest axis. The average depth was two and one half inches. The lining was usually of water moss and grass blades. A full complement of eggs was two or three, about one third of the nests containing two, the rest three. No nests were found with four eggs. A few of the nests contained fresh eggs but most of them were well advanced in incubation. In the whole colony we only found three nests that had broken eggs; this had evidently been done by the Gulls themselves. Two Crows were seen flying near but I do not think they had molested the nests. Mr. Hatch said that he had seen several rats on one of the islands in former years but I could find no signs of them so that it seems that the Gulls have practically no natural enemies there.

Mr. Henry W. Davis, of Atlantic City, N. J., writes me that he visited these islands in 1887 or 1888 and at that time there were only 25 or 30 pairs of Gulls nesting in the colony. So it seems that they are making a nice increase, and I believe this is due to the protection and interest of Mr. Hatch.

The Herring Gulls arrive from the south just as soon as there is open water in the lake in the spring. This is usually about the last week in March. They remain until the lake is completely frozen in the fall.

At this date, December 27, 1922, they are still here.

26th Infantry, U. S. Army, Plattsburg, N. Y.

EXTRACTS FROM THE FIELD NOTES OF GEORGE B. SENNETT.

BY RUTHVEN DEANE.

I am much indebted to Mr. George L. Fordyce of Youngstown, Ohio, for the privilege of examining one of Mr. Sennett's early note books which has come into his possession, and making a few quotations therefrom. Any personal reminiscences of ornithologists of prominence are always of much interest, especially when they touch upon their early experiences in collecting and field observation.

This note book was started in 1874, evidently when Mr. Sennett first commenced active collecting, and records the specimens collected or sent to him up to February, 1877. The measurements are given in all cases and the descriptions of plumage when a specimen of a species new to him was acquired. A large number of the specimens he mounted. Up to the middle of April, 1876, most of the specimens which he personally collected were taken in Crawford and Erie Counties, Penna.

On April 15, 1876, he started on his first collecting trip and joined his correspondent, Mr. Jasper N. Sanford of Elbow Lake, Grant County, Minn., who in 1878 accompanied him as assistant on his second trip to Texas. Here he remained until the end of May, collecting many of the Ducks, Cranes, Pelicans, Grouse and many species of waders, all new additions to his collection. While his facilities for preparing his specimens were very primitive, he mounted a number of his largest species and sent them home in crates. It was not until May, 1875, that he began to form a col-