

## SOME OBSERVATIONS IN A GREEN HERON COLONY

*(Butorides virescens)*

BY BESSIE PRICE REED

This report has to do with some observations made in a Green Heron colony during the seasons of 1921 and 1922. The colony was located in a willow marsh near the north shore of the eastern section of the dam at Lakeview, Kansas. The growth of willows was very dense; individual bushes occasionally reached a height of twenty-five feet and grew in water varying from two to four feet in depth. The marsh was about four hundred feet long by one hundred feet wide at the widest point and roughly oval in outline, approaching within thirty feet of the main shore line at the nearest point.

Early in the spring of 1921 a number of adult birds were observed in this vicinity. There was no subsequent opportunity for observation until July 6 when, by wading in among the willows, it was found that there were more than a dozen nests at heights above the water varying from three to twenty feet. Three of these were empty though evidently recently occupied.

On casual observation the nests appeared to be quite loosely constructed. It was often possible to see the eggs from below. Usually they were built in an approximately upright fork. In no case did the fork have more than two branches. The nests were invariably composed of bare willow twigs about eight to ten inches long, so closely interlaced that it required considerable effort to pull apart an old deserted nest. In general they were in the form of an inverted cone, the top being almost flat. So solidly were they constructed that remains of old nests could be found the following season. There was never any accumulation of debris, food remains, or excreta in the nests so they were very clean even after several weeks of occupancy.

Several nests, when first found, contained eggs varying in number from one to five. But in several nests were young birds, some evidently only a few hours old while others were able to clamber awkwardly onto the adjoining branches and sometimes traveled quite rapidly from bush to bush so that pursuit through the tangled thicket was very exciting. Not infrequently the young birds were able to escape entirely the combined efforts of two people to capture and band them. When placed in the water those only three or four days old were able to swim quite well. Very often they were observed,

when evidently only a few days old, perched on branches several feet from the nests. Several broods were found that were not accessible for capture and banding. When captured the very young birds usually made but little struggle for freedom. The older ones, however, scrambled away at the first opportunity and took to the water, swimming rapidly until they reached a willow where they would scramble awkwardly to the very top. With no effort at all they would move from one willow to another, climbing ever upwards until out of reach. All, except the newly hatched ones, stretched their necks at full length either moving their heads in different directions or remaining motionless. A quick motion toward them brought a darting, snapping re-



Willow Marsh, Site of the Green Heron Colony

sponse. The newly hatched ones would feebly lift their heads, then sprawl about helpless in the nests.

One young heron when handled began to stretch its neck full length and then withdraw it. It did this repeatedly until a dragonfly larva was regurgitated. On one occasion when trying to take a picture of some nestlings that were known to be less than two weeks old, one finger was thrust between the legs of one of the birds in an attempt to lift it off the perch. The bird resisted the upward pressure by holding tightly to a branch. Suddenly it regurgitated a pellet about an inch long by three-quarters of an inch thick. On examination this pellet was found to consist of the remains of grasshoppers and other insects.

The colony was subsequently visited on July 12, 19, and 30. One nest containing four eggs on July 12 was observed on the 19th to con-

tain three nestlings. The other egg was not found. These three young birds were still in the nest on July 30, when they were caught and banded. At this time they were able to fly for a short distance but all were safely returned to branches near the nest. No other broods were in evidence anywhere in the marsh at this time.

A careful survey of the marsh during the season of 1922 gave a total of thirteen nests. On June 8 nest No. 1 had four very young birds. At No. 2 there were three young climbing about. Nests Nos. 3 and 4 while new were empty; evidently the broods had already gone. Nest No. 5 had two eggs. Nest No. 6 revealed three newly hatched birds and one egg. In No. 7 the young were three or four days old while No. 8 had one egg and three nestlings scarcely dry. No. 9 had only eggs.

On June 17 the birds from nests Nos. 1, 2, 5, and 7 were gone. Nests Nos. 6 and 8 showed the one egg hatched. In the latter nest the other three birds, already hatched on June 8, were high in the tree. Nest No. 9 had five young. On this same date two new nests were discovered. No. 10 contained two eggs; No. 11 was twenty feet above the water and inaccessible. Below this nest on July 8 one egg was found. On this date two more new nests were discovered. No. 12 had three eggs while No. 13, likewise twenty feet above the water, had at least that many. On July 15 this nest contained one nestling.

Accurate count showed that twenty-seven birds were reared that season and all evidence indicated that others of which no count was tabulated had left nests earlier in the season.

Practically every brood showed distinct differences in age among the nestlings. This was due, no doubt, to the habit of the adults beginning incubation before the complete set of eggs had been deposited. Those nests containing one egg along with nestlings showed the last one hatched much smaller than the rest. This difference was also manifested by the reactions of the young while still in the nest. The degree of response varying with the age of the bird.

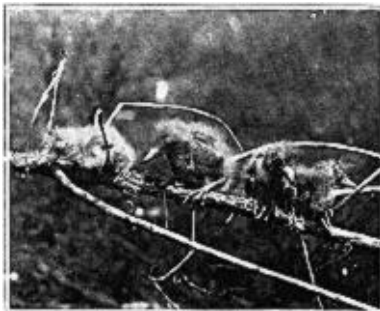
The plumage of the newly hatched birds was soft, downy and of a dull grayish green color. In a few days darker hued, glossy feathers began to appear on the wings and neck. By the time the young were ready to leave the nest the scapular plumes had become still darker and all the soft down had been replaced by a coat, not quite so luxuriant as that of the adult bird but very similar in every other respect



Green Heron Nest and Eggs



Nestlings one day old



Nestlings three to four days old



Young about ten days old



Nestling too young to perch well



Banded young, ten days old

so far as superficial appearance was concerned, except for the absence of the crest.

The feet, legs, and bill were greenish yellow from the beginning and did not change greatly during the period of observation.

During these visits to the marsh not many adult birds were seen. At no time were there ever more than three or four. These would circle about the thicket in a rather excited manner or perch in some nearby willow and watch proceedings, uttering now and then their harsh squawks. Frequently one of them was seen slipping back to its nest after the intruders had departed. Occasionally upon approaching the marsh one or two adults would leave the thicket making more or less fuss as they flew about.

Within or near the heron colony there were ten nests of the Red-winged Blackbird, one Kingbird, and one Mourning Dove nest. The first nest of the Kingbird was destroyed but the second served as home for three young. The so-called water moccasins seemed to be quite common. Not infrequently one would be seen coiled up in a tree near a nest. On one occasion a snake was seen crawling out of the nest of a Red-winged Blackbird.

In the early part of the season of 1923, about the middle of June, the marsh was again inspected. No adult birds were in evidence and no nests were found. Absence from the region prevented further study but reliable reports furnished the information that no herons used the willow thicket that season. An investigation in the fall confirmed this report since no old nests were found. The thicket was less dense, a number of willows having died, but still there remained enough to afford sufficient cover. The marsh was in the limits of the Lakeview Club grounds so no shooting was allowed except in open season in the fall and then the privileges were limited to members only. In fact the grounds were at all times carefully patrolled; even these investigations could not be undertaken without a permit. It is not possible to draw conclusions as to the reasons for this desertion of a rookery safely occupied during the last two seasons.

In the season of 1921 eleven nestlings were banded with U. S. Biological Survey bands; in 1922 twelve were so banded. There were never any returns from any of these.

DALLAS, TEXAS.



(Photograph by Chas. G. Spiker)

LEROY TITUS WEEKS