

Bronzed Grackles Feeding on Emerald Shiners.—It has but recently come to my attention that records of the capture of fish by Bronzed Grackles (*Quiscalus quiscula versicolor*) have been published by Townsend (Auk, 36: 627, 1919), Cahalane (Auk, 61: 296, 1944), and Hamilton (Auk, 68: 217, 1951). These records involved the capture of sticklebacks, yellow perch, and alewives, respectively. It therefore seems appropriate to record the capture by Bronzed Grackles of another kind of fish, on the basis of observations that have lain dormant in my field notes for a number of years.

On June 18, 1944, at Niagara Falls, Ontario, opposite the American falls, thousands of slender fish approximately three inches in length formed dense shoals near the surface of the clear water. An occasional dead or dying fish, its white belly turned upward, floated conspicuously at the surface. The shoals were concentrated chiefly below a rocky point and in an eddy at the boat landing. Several Bronzed Grackles walked about on numerous small bits of driftwood floating in the eddy. As I watched, a grackle seized one of the slender fish and flew off, the bright silver body of the fish hanging from the bird's beak.

On several occasions during the next three days, I examined these shoals, and observed that they consisted of fish of a single species. Using a small unbaited hook, I "snagged" 18 specimens (four of which are now deposited in the California Academy of Sciences, under Catalog No. 18611), and identified them as the River Emerald Shiner (*Notropis atherinoides atherinoides* Rafinesque).

During the afternoon of the fifth day, using six-power binoculars, I watched the grackles foraging about the driftwood, and on six occasions saw one carry away a fish that appeared to be an Emerald Shiner.

The diagnostic characters of this shiner have been treated by Hubbs and Lagler (Bull. Cranbrook Inst. Sci., 26: 59, 1947).—W. I. FOLLETT, *California Academy of Sciences, San Francisco.*

A Bronzed Grackle (*Quiscalus quiscula*) Feeding on Live Minnows.—Fish have been recorded as food of Bronzed Grackles (Bendire, C. E. "Life Histories of North American Birds," Washington, 1895; Townsend, Auk, 36: 627, 1919; Cahalane, Auk, 61: 296, 1944), but little information is available on the actual feeding behavior involved in acquiring fish. Hamilton (Auk, 68: 213-217, 1951) found that fish, primarily alewives (*Pomolobus pseudoharengus*), occurred in 70.8 per cent of 130 nestlings' stomachs and comprised 6.6 per cent of the total bulk. These alewives were dead ones which the adult birds had picked-up along the shore of Cayuga Lake, New York. Follett (Auk, 74: 263, 1957) observed Bronzed Grackles feeding on the River Emerald Shiner, a fish closely related to the species recorded in this paper.

On July 5, 1956, while the U. S. Fish and Wildlife Service research vessel *Cisco* was docked at Harbor Beach, Michigan, we observed a female Bronzed Grackle taking minnows, probably lake emerald shiners (*Notropis atherinoides acutus*), from the water. A total of seven minnows were taken in a one and one-half hour period. One of the minnows was seen wriggling in the bird's beak, and there seems little doubt that the other minnows were alive also, since no dead ones could be seen floating on the surface. Although there were several grackles in the vicinity, apparently only one was catching minnows since all the fish were captured by a female and taken to the same tree about one-quarter-mile distant. It is probable that these minnows were being fed to nestlings, because we saw none of them eaten by the adult. Further evidence that the fish were being fed to young is that on one occasion, after capturing a minnow, the grackle flew to the dock and rearranged the fish in its beak, then flew out over the water and caught another one.

The procedure which the grackle followed in capturing the minnows was as follows: The bird flew back and forth eight to ten feet above the water, then upon sighting a minnow it dipped down, hovered immediately above the fish and captured it with a quick thrust of the beak. This grackle appeared to be very adept at catching the minnows; it was not observed to miss a capture and got only its breast feathers wet during the procedure.—A. M. BEETON and LARUE WELLS, *U. S. Fish and Wildlife Service, Ann Arbor, Michigan.*

Eastern Phoebes Fishing.—On April 1, 1956, in Jackson Park, Chicago, Illinois, Richard Macomber and I observed two Eastern Phoebes (*Sayornis phoebe*) catching and eating small fish.

The birds were at the edge of a small harbor which is part of a chain of lagoons connected at two points with Lake Michigan. In the immediate vicinity of the birds' activity, the harbor is delimited by a concrete wall rising vertically 25 inches from the water. Behind the wall is a parking area and beyond this, about 25 feet from the water, is a low bank covered with dense bushes.

The two Phoebes were observed for twenty minutes (4:50 P.M. to 5:10 P.M., C.S.T.). During this time, they caught a total of seven fish.

The birds stood on the level top of the concrete wall, peering intently into the water. Suddenly, one would swoop downward. Then one of three things would happen. Either the bird would strike the water immediately at the bottom of its dive; or it would hover for several seconds, two or three inches from the water, and then strike; or it would hover and then return to its perch without touching the water. The only parts of the bird to make actual contact with the water were the upper breast, throat, chin, bill, and forehead.

If the attempt was successful, the bird flew with its catch to the middle of one of the dense bushes. About half the attempts were successful. If unsuccessful, the bird returned to the edge of the wall to resume its watch.

When a fish was caught, it was held by its middle, crosswise in the bill of the bird. Upon reaching a bush, the bird attempted, in one swift motion, to turn the fish in its bill and swallow it head first. Then the Phoebe sat in the bush for one or two minutes before returning to the wall.

Near the wall the water teemed with small, silvery fish from one to three inches long. We were able to see the Phoebes eat only two of the seven fish caught. One was about 1½ and the other about 2½ inches long. The Phoebe which caught the larger fish had a great deal of trouble swallowing its prey, but was eventually successful. Unfortunately, the species of fish was not determined.

Most of the fish seemed to remain two to three inches below the surface. Apparently, the Phoebes caught only those that ventured nearer to the surface. This was evidenced by the fact that the birds sometimes had to scan the water for several minutes before making an attack, and that in catching a fish less than an inch of the total body length of the bird was submerged. The fish caught were apparently alive and active. One was seen to wriggle vigorously as the bird maneuvered it in its bill. I carefully examined the water but could see no floating dead fish.

It is extremely difficult to give a satisfactory explanation for this behavior. It is possible that poor fly-catching conditions forced the birds to change their diet, but weather conditions do not seem to bear out this hypothesis. According to the Chicago Weather Bureau, at 6:00 P.M. (C.S.T.) on April 1, the temperature was 64° F., the relative humidity 44 per cent, and the wind from the southeast at 14 mph. There was no precipitation until 6:56 P.M., about two hours after our observations. The wind was considerably less than 14 mph in the area of observation.