157.—THE DESTRUCTION OF CARP BY THE MUSK-RAT (FIBER ZIBETHICUS).—METHODS OF TRAPPING THE RODENT.

By HENRY W. ELLIOTT.

[Abstract.]

On June 10, 1883, I placed forty choice goldfish in my pond. Later in the season the water became low and so clear that the contour of the bottom and the contents of the pond were exactly revealed. On August 25 only five goldfish remained, but these had grown remarkably. No fish had been seen dead or injured, though the pond was constantly under the eyes of myself and family. No geese, ducks, turtles, water-snakes, bitterns, or kingfishers had been noticed about the pond; and, concluding that the fish had escaped at the outlet pipe, I placed a wire screen over it and dismissed the subject.

Towards the end of September I saw a large musk-rat in the pond, but the animal saw me at the same time and instantly disappeared. As I knew well that there were no musk-rat burrows in the banks of my pond, I concluded that it must live in a 6-inch tile-drain that served as an inlet pipe. Accordingly I immediately put a common steel-trap into the tile, and had the satisfaction of catching the musk-rat a few days afterwards. A neighbor told me that this was the destroyer of my fish, but I answered that the authorities denied a fish diet to the muskrat, declaring it to live upon vegetables, grain, and mollusks. I began to think anew upon the subject, however, and called upon another neighbor, who has a large carp pond. Like myself, he was unable to account for the loss of his fish, but on drawing off his pond and finding only one large carp instead of the hundreds he should have had, and discovering seven or eight musk-rat holes in the banks, he concluded that these musk-rats were the cause of the destruction and disappearance of the fish. I have since learned that carp ponds in Virginia, Pennsylvania, and Illinois have been robbed and the fish destroyed by musk-rats.

The attention of fish-culturists should be quickly drawn to this danger, and the prompt destruction of the musk-rats may save much loss in the propagation of carp and goldfish. The nocturnal habit of the musk-rat in feeding renders trapping the only practicable method by which to get rid of this pest. A common steel-trap should be set, placed under the water at the entrance of the musk-rat's hole, a stout stake being driven into the bank above and the chain securely attached to it. The musk-rat when either coming out or going in is likely to step upon the flat trigger and is caught, when it may easily be killed.*

^{*}The American Field, of October 20, 1883, gives the following instructions for catching musk-rats:

[&]quot;Get half a dozen of Newhouse's steel-traps. Set them near the edge and under the water in about 1 inch of water. Put upon a stick slanting out over the water and in front of the trap, a piece of parsnip. Set the trap lightly. This will eatch every musk-rat, they being vegetable eaters as well as fish eaters."—C. W. S.

The hog-like character of carp in plowing up the bottom and banks of the pond, thereby keeping the water muddy and rendering themselves invisible, enables the entrance to the musk-rat's burrow to be concealed until the water is drawn off. The fry and older carp stupidly poke themselves into these burrows, thus making themselves an easy prey to these active rodents. When ice forms, and the carp settle numb and torpid to the bottom, then, in my opinion, the ravages of the musk-rat are most to be feared by the fish-culturist; but before that time he should get rid of these pests.*

CLEVELAND, OHIO, November 1, 1883.

158--THE MUSK-BAT AS A FISH EATER.

By C. HART MERRIAM, M. D.

That the musk-rat is not commonly considered a fish eater is evident from the absence of reference to such habit in the published accounts of the animal. Robert Kennicott is, so far as I have been able to ascertain, the only author who mentions this trait. He says: "Except in eating mollusks, and occasionally a dead fish, I am not aware that this species departs from a vegetable diet." ["Quadrupeds of Illinois Injurious and Beneficial to the Farmer," 1857, p. 106.]

At a meeting of the Biological Society of Washington, held in the National Museum, December 14, 1883, Mr. Henry W. Elliott spoke of the "Appetite of the Musk-rat." He stated that in certain parts of Ohio the musk-rat did great injury to carp ponds, not only by perforating the banks and dams and thus letting off the water, but also by actually capturing and devouring the carp, which is a sluggish fish, often remaining motionless, half buried in the mud. In the discussion that followed, Dr. Mason Graham Ellzey said that from boyhood he had been familiar with the fact that the musk-rat sometimes eats fish. In fact, he had seen musk-rats in the act of devouring fish that had recently been caught and left upon the bank. The president, Dr. Charles A. White, narrated a similar experience.

On the 7th of February, 1884, I brought this subject to the notice of the Linnean Society of New York, and asked if any of the members knew the musk-rat to be a fish eater. Dr. Edgar A. Mearns said that he had long been familiar with the fact, and that it was no uncommon thing to see a musk-rat munching a dead fish upon the borders of the salt marshes along the Hudson. He has shot them while so engaged.

^{*}Under date of November 16, 1853, Dr. Hessel, superintendent of the Government carp ponds at Washington, says: "The musk-rats have now taken to their winter quarters, and not one is to be found at the ponds. Four weeks ago I smoked out all their holes with sulphur and saltpeter. I then filled them up with earth."—C. W. S.