be accounted for. Whitefish are going to a certain extent, but they die every year on account of being driven from the cold water near the mouth of the springs which supply the lake, where they congregate, into the warm water which prevails everywhere else. A few pickerel also are seen dead, but not enough to cause the idea of an epidemic. It is the perch which get the best of fishermen now by their death. The dead perch range in size from one-half pound to 2 pounds. They have strewn the shore for nearly four weeks. Cart-loads are taken away and buried, but still the shore is covered with their carcasses. Every gale, every breeze that blows, strews them over the waves. Theories are numerous regarding this disease. One attributes it to an insect that gets into their windpipe and chokes; another notices a black spot near the gill and attributes to its presence the cause of which death is the effect. (Madison Transcript, August 7, 1884.)

213.—DESTRUCTION OF FISH-FOOD BY BLADDERWORT (Utricularia).

By S. A. FORBES.

[From Forest and Stream, September 4, 1884.]

While the very interesting fact of the destruction of young fishes by the bladderwort is occupying the attention of your readers, permit me to mention another method than that of direct destruction by which these plants must often greatly hinder the multiplication of fishes in waters infested by them. In an article on the entomostraca of Lake Michigan and adjacent waters, which I published in the American Naturalist for July, 1882, I remarked that in ten "bladders" of *Utricularia vulgaris*, taken at random; I found ninety-three animals, either entire or in recognizable fragments, and representing at least twenty-eight species. Seventy-six of the animals found were entomostraca, and belonged to twenty species. Nearly three-fourths of both individuals and species were cladocera. Just one-third of all the animals found in the bladders belonged to the single species *Acroperus leucocephalus* Koch. Now, my studies previously made of the food of young fishes, reported chiefly in the third bulletin of the Illinois State Laboratory of Natural History, showed that the principal food of all young fishes, with quite insignificant exceptions, consists of the very class of minute animal forms which the bladderwort is constantly engaged in selecting from the water by means of the hundred of bladders with which each plant is covered. It thus not only occasionally entraps the youngest fishes, but likewise habitually and continuously contends with them for food, and may be said to thrive largely at their expense.

NORMAL, ILL., *August* 29, 1884.