

188.—TEN QUESTIONS CONCERNING THE HABITS AND BREEDING OF LANDLOCKED SALMON, WITH REPLIES.*

By CHARLES G. ATKINS.

Question 1. Do they live only in large lakes having a depth of more than 100 feet?

Answer. The depth of the lakes inhabited by them is not ascertained with certainty, but I believe that some of them will be found to be less than 100 feet deep. As to area, some of the lakes I believe to measure less than 1,000 acres. The largest, Lake Sebago, measures about 50 square miles.

Question 2. Do they live only in lakes surrounded by mountains (alpine or sub-alpine lakes)?

Answer. The lakes in which they most abound are surrounded by low land. Lake Sebago is in a flat sandy country, and around Grand Lake in the Schoodic chain are probably no hills that rise more than 600 feet above its surface. None of the others are in a strictly mountainous country.

Question 3. Are there many lakes in the United States in which landlocked salmon are found?

Answer. All the lakes in the United States containing them are about twenty in number, included in four small river basins in the State of Maine. This is a very small proportion of the lakes of the country, the State of Maine alone having several hundred of them.

Question 4. What is the usual weight in the market?

Answer. The usual weight of the landlocked salmon from the Schoodic lakes is 2 pounds; from the Sebago region, 5 pounds.

Question 5. What is an extraordinary weight?

Answer. An extraordinary weight is 5 pounds for the Schoodic fish and 12 pounds for the Sebago fish; though the former sometimes reach 10 pounds and the latter 18 or 20.

Question 6. Are they more esteemed and sold at a higher price than lake trout?

Answer. They are esteemed higher than any of the trout.

Question 7. In what month do they spawn?

Answer. They begin to spawn in October, but perform the operation mainly in November, finishing about November 20.

Question 8. Do they spawn in the lake like whitefish, or in rivulets like lake trout?

Answer. They spawn in running streams like the brook trout (*S. fontinalis*), which also often lives in lakes, but the true lake trout always spawn in the lakes like whitefish.

* The questions were asked by Von Behr, president of the German Fishery Association.

Question 9. Mr. Palmer says they are not good for pond culture; is it so?

Answer. In small artificial ponds their growth is less rapid than that of brook trout.

Question 10. Are they caught by angling? In what month? What baits are employed?

Answer. They are taken with hook and line, mainly in May and June, often in July, September, and the winter months. They will take bait to some extent all months in the year. The usual baits are, in May, the rind of salt pork; in June, the artificial fly; in the winter, a small living fish.

**189.—REPORT ON BLACK BASS SENT FROM AMERICA TO GERMANY
IN 1883.***

By MAX VON DEM BORNE.

Of the 7 wide-mouthed and 45 narrow-mouthed bass which Mr. Eckardt, jr., brought from America in February, 1883, the greater number died, probably in consequence of the long journey, so that this spring there remained only 3 of the former and 10 of the latter, which I placed it two ponds, supplied with gravel beds for spawning. The 3 wide-mouthed fish were ready to spawn, but the 10 narrow-mouthed ones will not reach that condition until next year. The former are probably best suited for the water of the lead region, such as I possess, and the latter for stony bottoms.

To-day I had the pleasure of noticing in the pond containing the 3 wide-mouthed black bass a large number of young fish of shape entirely unknown in these regions—small fish of a pitch-black color, resembling tadpoles. With a fine gauze catcher we caught more than 2,000 in about an hour, and placed them in a pond containing no fish whatever, but a great number of diminutive crustaceans (*Flohkrebse*). I have, therefore, reason to hope that this importation has proved a success. The 3 old fish have grown very rapidly, and have now reached half an arm's length.

I am waiting to hear from Professor Beneke relative to the use of the diminutive crustaceans (*Flohkrebse*). From Dubisch I have learned how to raise enormous quantities of infusoria for fish-food.

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* *Mittheilungen über blackbass*. From Circular No. 4, 1884, of the German Fishery Association, Berlin, June 30, 1884. Translated from the German by HERMAN JACOBSON.

NOTE.—An account of the spawning of the black bass sent to von dem Borne in 1882 will be found on page 219.—EDITOR.