

## THE PIKE-PERCH.

THE number of pike-perch annually hatched by artificial methods is enormous. Not many years ago the treatment of adhesive eggs was one of the great difficulties of pisciculture. We have not at hand a description of the apparatus used by Muller and Brown in 1857, when they conveyed 20,000,000 eggs of the pike-perch from Lake Ontario to Lake Saltonstall, Connecticut, and we do not know whether any of the eggs were hatched; but it was formerly the practice to allow the eggs to adhere to glass plates, which they did by means of a sticky envelope covering the shell. It was in this way that Livingston Stone hatched some of the eggs of the Cold Spring trout ponds, in Charlestown, New Hampshire, many years ago. It is astonishing to note the radical changes which take place in the handling of eggs. A few years ago it was believed to be necessary to let adhesive eggs stick naturally to glass surfaces, or to threads which were suspended in jars or boxes. We have recently learned from Mr. C. V. Osborn, President of the Ohio Fish Commission, that his men, at the expense of a great deal of time and trouble, wash off the sticky substance from the pike-perch eggs, and then place them in jars to be hatched in the way followed in hatching the eggs of shad, whitefish and other common species. The Ohio Commissioners distributed 60,000,000 fry of the pike-perch in all parts of the State last year. Canada put out 25,000,000 fry from the hatchery at Sandwich, Ontario, and the total number of young planted to date by the Dominion is 172,135,900. Pennsylvania distributed 12,000,000 in its eastern waters recently, as stated in FOREST AND STREAM of May 23. The U. S. Fish Commission has distributed about 60,000,000 up to the present time, having just begun the work. As this is one of the finest food and game fishes of the United States, we dwell with considerable gratification upon the enormous results of its artificial propagation.

Anglers are, of course, aware that we have two well marked species of pike-perch, or wall-eye pike, in our waters, and each of these has two or more varieties differing in size and coloration. The choicest of the number is the large golden species inhabiting the Great Lake region, extending northward into British America to an unknown distance, but placed at 58° north latitude by Richardson. It is said to range southwestward to Arkansas, and in Atlantic streams it is recorded as far south as Georgia. The blue pike is the variety *salmonium* of Ohio and Kansas; the distribution of both varieties is insufficiently known. The form best known to anglers and pisciculturists is *Stizostedion vitreum*, variety *vitreum*. This is credited with a maximum weight of about 50 lbs. according to Genio C. Scott, but the average weight as found in the markets is under 5 lbs.

The pike-perch has received a bewildering number of names. In the Eastern States it is the perch-pike, pike-perch. Susquehanna salmon, glass-eye and wall-eyed pike. In the Great Lake region it is called blue pike, yellow pike, green pike and grass pike. It is the jack of the Ohio Valley and western North Carolina; the pickerel in Lake Erie and Canada; white salmon and sometimes jack salmon at the falls of the Ohio. The Cree Indians call it the okow, and the French Canadians doré or picarèl. It is the horn fish of the fur traders of British America.

The spawning season occurs in April and May, and, in Pennsylvania, continues until June. Favorite places are sandbars over which the water is shallow. The period of incubation depends upon the temperature, varying from about a fortnight to one month. The eggs vary from about 17 to 25 in. in. and the number in a single female has been estimated at from 200,000 to 300,000. In a state of nature the eggs are subject to very serious dangers, and a very small percentage of them are hatched out; storms drive them up on to the lake shores, and many species of fishes devour them on the spawning beds.

The rate of growth must be rapid, for we captured many of the young last summer for the Fish Commission aquaria at the Cincinnati Exposition, and the smallest of them in July were not less than 4 in. long and some were 6 in.

The colors change remarkably with age. The young are banded very much like the kingfish of the coast, not closely resembling the parent in pattern of coloration. The eye of the living fish is like a glowing emerald. The flesh of the pike-perch is firm and white, flaky and well flavored. Commercially, the species ranks very high in the Great Lake region, being next to the whitefish in importance.

This fish feeds on the bottom, its food consisting of other fishes, and it is not very particular what species it devours. Some people charge it with destroying its own young; minnows, however, are readily accepted as bait. It prefers clear and rapid waters, and lurks under submerged logs and rocks, from which it can readily dart upon its living prey.

In the Susquehanna it is angled for and readily taken by using live bait—minnows representing numerous genera of the family *Cyprinidae*, but particularly such as are more or less transparent, with silvery sides. The fallfish or dace, the corporal, roach, and species of the genera *Luxilus* and *Hybognathus* are freely used. The artificial fly can be employed to great advantage also, particularly in cold weather in the vicinity of dams. On some parts of the Susquehanna, between Columbia and Harrisburg, the pike-perch is frequently caught by trolling with the spoon, the tackle being the same as that used in trolling for bass. The favorite fishing grounds of the lower Susquehanna are reached by the Columbia and Port Deposit Railroad. Fite's Eddy is one of the best places; Washington, three miles below Columbia, is another good location. The species is well distributed throughout the river and its larger tributaries, the Juniata and North Branch being especially noted.

In fishing for the pike-perch it is to be remembered that the species is a bottom fish, and the angler must keep his bait near the bottom. The tackle generally used for black bass is suitable for the pike-perch, and it is desirable sometimes to use a float. In the Ohio River Dr. Henshall has been informed that fishing with hook and line is excellent from Marietta to Pittsburg. In this region the fish is called salmon. Mr. Goode says there is no better fishing anywhere for this species than may be found in Lake Pepin and other waters near Lake City, Minnesota. Winter fishing through the ice with live-minnow bait is very successful on Lake Pepin. As in the case with the shad and other anadromous fishes, the

important fishery for the pike-perch occurs during the spawning season only, and like the shad the fish is in its best condition at that time.

The pike-perch has a near relative in American waters known as the sauger, *Stizostedion canadense*, which runs into several varieties, but none of them grow very large and all of them are inferior to the *S. vitreum*. In Europe there are several species of pike-perch, the one most nearly resembling our large species being the zander of the large rivers of the continent. This species, also, prefers clear, deep, flowing water, and is generally found in the depths. It spawns at the same season as our own pike-perch in shallow spots abounding with aquatic plants except in Swedish lakes, where it spawns in deep water. The zander is said to reach a length of 3 to 4 ft. and a weight of 25 to 30 lbs. In the German markets, however, specimens of over four pounds in weight are rare. The species can be caught with the bait from June until September, its favorite food is the gudgeon (*Gobio fluviatilis*) but, like its American relative, it will also take insect larvae, crayfish, worms and other invertebrates.

## THE LAKE ELLERSLIE FISHING CLUB.

"I CAUGHT fourteen bream on silver-doctor and professor in the middle of last winter," said Al Spotswood, "I had to fish through the ice, and the fish took the fly right at the bottom."

"Alex. Jeffrey has often caught birds on a fly," said George Williams, gravely.

"Wasn't it you that caught a blacksnake on a fly once, Al?" asked W. K. Massie of Mr. Spotswood.

"Yes," replied the latter, "I was fishing 'out at the reservoir, and had out a pretty long line. The snake took the fly in good shape, and played well, but I finally landed him."

"I caught a goose on a fly once," mused Mr. Massie, "but I don't remember that I ever caught anything else, except fish."

I preserved a respectful silence, for I could think of nothing but Kit North's story in the "Noctes Ambrosianæ," of how he once cast a fly so far and so lightly that it took life and wings and flew off across the mountains. I was afraid the other fish story tellers would recognize this story, because it was evident that there was assembled in the little office a number of old hands, so that nothing but a gilt-edged yarn would go.

The rich Kentucky sun shone warmly through the window, and silence and drowsiness fell upon the party, as each waited for the other to set a pattern.

"You people must sort of—that is, occasionally—you know—" I ventured at length, diffidently.

"Oh, yes, we fish with the fly a little," said somebody, "we have a club. There are about 200 of us. We fish out at the reservoir. It's only about four miles. Come on and go out."

It being at length established that these gentlemen usually caught something else besides birds, geese and snakes, the remaining preliminaries for a fishing trip were rapidly concluded. This was the first introduction of the Lake Ellerslie Fishing Club, of Lexington, Ky., and it marked one more of the constant surprises which Kentucky had in store; for in this organization I found the strongest fly-fishing club I ever happened to meet, was treated to some genuine sport at the fly, and saw once more a proof of the growing hold that sports of the wood and stream are gaining upon the very best social element all over the land.

Lake Ellerslie Club is but a few years old, but a glance at the list of its members will show any Lexington man, at least, that its social and financial status is quite above any question; while it requires but a very slight investigation of its piscatorial resources to remove any remaining doubt about its worthiness to receive the seal of absolute approval as a fishing club of the very first water. Its membership is made up exclusively of Lexington gentlemen, and its lists are always full. Shares were originally sold at \$30 each, but now they cannot be bought at \$100. There is too high an appreciation of the privilege of taking a half hour's ride any evening, and having an hour's sport with a fly-rod at a spot where one is almost sure to kill a creel full of bream, bass and other game fish.

The fishing grounds of the club lie in a spot naturally quiet and beautiful, and which, for a wonder, has been rendered rather more pleasant than less so by the administrations of man. The lake, or "Reservoir," as it is commonly called, because of the location there of the city water works, is a winding sheet of water which covers rather more than eighty acres of land. At its lower end it is fenced with a strong stone dam; midway it is crossed by Lexington turnpike, the viaduct being a heavy stone culvert. The arm of the lake to the left of the culvert as you go out is called "Tracey-side." About half way between the culvert and the dam, to the right hand, stands the engine house of the water works, which is a sort of rendezvous for the fishing parties, although there is no regular club house. There could hardly be said to be any need for the latter. To reach the engine house you pass through a big Kentucky gate, and roll over a short turn of road at the top of a well-sodded bank. To your left lies a deep arm of the lake with rocky bank, and just off here you can catch croppies all day long if you care to use bait. At the engine house there is a little bridge which runs out to the well-tank. The water is deep under this bridge, and the way the croppies bite there is a caution. This bridge is a favorite place for parties having ladies among the number. The latter may step from their carriages, walk a few steps over the springy turf, step upon the planks of the bridge, lean over the handrail, and fish in a delightful style, whose luxuriousness and ease is hardly consistent with its actual results. There is no necessity for elaborate special costumes, nor for specially negligent ones. I saw a number of ladies dressed in tasteful street costumes, who were fishing from this delectable little bridge, and they caught between two or three hundred fish, too. With its setting of quiet green and sunset gold, the picture afforded by the little bridge was a singularly pleasant and unique one; and I give my word there was a fish in the air all the time.

This extreme plentifulness of the fish supply is due to two causes. In the first place, the lake is a natural home for fish, being fed by cold "spring branches" and by springs of its own. It is from 12 to 20 ft. deep in places, and has acreage enough and natural food enough to sustain a vast amount of fish life. In the second place, the

waters have been stocked repeatedly, abundantly, and, above all, intelligently. The stocking was begun by the late Gen. Wm. C. Preston, who owned the surrounding land, and who, as I understand it, originally leased the fishing privileges to the club. Since taking possession, the club has annually stocked the waters. They were heavily planted two years ago, some of the young fish being obtained from the Fish Commissioners, but the great bulk of them being native fishes obtained from Kentucky streams. This is the most sensible method of stocking any waters; that is to say, with fishes native to that locality. They are the ones sure to thrive. In this case, the plant consisted largely of bream, croppies (called "new lights" in that country), sunfish, goggle-eyes, perch and bass. Some carp had also been planted before the club took possession, and it is said that two or three dozen mascollange were once planted, of which one was recently taken, 28 in. in length. The planting of carp cannot be of any possible benefit to a fishing club, and may be a detriment, if the carp do feed upon the spawn of other fishes, as it is very probable they do. It would be well for the club not to put in any more carp, and, better yet, never to dream of putting another mascollange into their lake. The latter fish grows with such rapidity, and is so unspeakably voracious, that it is certain to spoil infinitely more good sport than it can ever afford. No bream or perch ever grows so large that a full-grown mascollange cannot swallow him at a gulp, and it takes a good many such gulps to satisfy one of these long-faced pirates. If the Lake Ellerslie men do not make away with the mascollange they have put into their waters, it is only a question of time until the lake has but a single fish, and that will be a mascollange that will crawl out at night and steal sheep. Eighty acres is not water enough for mascollange and little fishes to occupy together, except in so close a personal relation as would hardly please the latter. Much better, though not especially desirable, are the catfish, which formed a small percent of the total plant put in. These have been heard from, but not in numbers sufficient to show them troublesome.

The efficiency of the measures of the club in stocking their preserve may be seen from the estimate that 400,000 fish are annually taken out by the members of the club, the majority being killed with the fly. I do not think this current estimate can be very largely in excess. I am satisfied that I saw 1,000 fish taken by anglers within the range of vision on one evening I fished at this lake, and there were numbers of fishers further down the lake. It is nothing for an angler to take a creelful in an evening's fishing, and that would commonly mean forty to fifty fish, as the catch runs small. The excellence and ease of such fishing attracts a large turnout on almost every pleasant evening of the fishing season; and as the season begins in April and continues until late in the fall it may be imagined what is the total number of fish taken.

The commonest fish in the Reservoir is the croppy, or "new light." This fish was unknown in Kentucky until the building of the "Toledo Canal," which connected northern Ohio waters with the channel of the Ohio River. From the latter stream the fish worked up the Kentucky tributaries, and first became noticeably numerous at about the time of the first appearance of the religious followers of Alexander Campbell, who were called Campbellites, or sometimes, after their own professions and semi-contemptuously, "New Lights." The sectarians and the fish caught the name at the same time, and for the latter it has clung tenaciously even till now, and is indeed almost the only name understood for that fish in the country which I visited. I am told that this fish attains a weight of four pounds or more in the south. I never saw one anything like so large as that. The size most common at Lake Ellerslie was a trifle larger than one's hand; the average weight would therefore run between a quarter and a half of a pound, and be closer to the former, perhaps. This would indicate the prevalence of the plant of a certain year, possibly that of two years ago. The fish taken are larger this year than last, and in a few years more the sport at this preserve on these fish will be grand, as they will then be large enough to afford more play. We found the croppies here the tree biters that they usually are. Mr. Williams, Mr. Massie and myself fished leisurely through the day, and when we came to string up our fish at night we found the string so long that none of us could lift it clear of the ground. "We'd have had a pretty nice string," said Mr. Williams as he tugged up the bank, "but when I was putting on that last lot the string broke, and I lost fifty or sixty new lights and bream."

Small minnows are readily taken by the croppies here during the day, and they often rise to the fly during the day, although the fly is then more apt to attract the sunfish and black perch. In the evening we found them rising to the fly as readily as trout, and on the light tackle used at these waters the sport was exceedingly fine. Although the new light cannot be said to be a very long fighter, it certainly rises gamely and strikes in earnest. Sometimes two or three are taken at a cast. We found professor about the best fly for steady work on the new lights, or at least the one most in use. Brown-hackle, Seth-Green and coachman were favorites next in order, and flies allied to those models were taken almost equally well. I presume I was the first to try Parmachene-belle on Lake Ellerslie. This, it will be remembered, is well hacked out with scarlet, the hackles also blending in with the white wings. My specimens came near being scarlet and white hackles, with coachman as stretcher, brown-hackle first dropper and Parmachene-belle as top dropper. I killed five new lights out of six on the belle, the other one taking the hackle. It was about half an hour before sundown. A few moments later the bream began to monopolize things, and these seemed to take to the old reliable coachman, perhaps because it was growing darker. I left a few of the Parmachene-belle with my friends, and Mr. Massie wrote, under date of May 23:

"The daisy red and white fly left us by yourself while here on the following day attracted a 2-pound bass, which was enjoyed, broiled, the next morning for breakfast. \* \* \* Al Spotswood caught a 13½-pound catfish this morning. If George writes and tells you it was 18, you can strike the proper average."

Mr. Massie does not state whether or not Mr. Spotswood took his catfish on the fly, but I am satisfied that a man who would catch a blacksnake on a fly would not hesitate to catch a catfish in the same manner. As to the bass, they were not rising much to the fly at the time of my visit, but soon began to rise more readily.