

small risks of life and property. Vessels will fill up in a day instead of occupying weeks or months. Food will be cheapened. Domestic conditions will be ameliorated. Relief will give place to anxiety in the seaside homes, and general contentment and prosperity will prevail.

Some such picture the optimist could outline for the future occupation of the toiler of the sea, if present promises continue. A happy combination of sound, river, estuary, ocean and inflowing creek, and a meeting of tidal and fluvial currents has made the waters of eastern North Carolina the prolific nursery and pasture ground of no less than eighty varieties of edible fish. Most of these were exhibited simultaneously at the New-Bern Fish and Oyster Fair held the last week of February just passed. If man be not improvident or prodigal the natural supply will not fail, but it will replenish itself as fast as drawn upon.

There is small probability of depleting the ocean, though local colonies may be temporarily decimated. It will remain to be proved what will be the ultimate result of this recent development in the fishing industry.

CHARLES HALLOCK.

NEWBERN, N. C., March 12.

MANITOWISH WAY.

WE are reminded that the time is approaching when it would be pleasant to repeat our trip to the muscallonge region, a trip which formed the basis of very many pleasant recollections. Mr. W. S. Allen and myself made an extended tour of the lakes of northern Wisconsin, our headquarters being near Trout Lake, while we did our fishing in neighboring lakes tributary to this beautiful body of water. Our catch in all of the lakes proved better than during the previous year, the conditions of water and weather being more favorable. At the close of the most successful day's sport we counted nine muscallonge, and while the largest weighed but 15 lbs, we were quite well satisfied with the results. The bass fishing was excellent and our score book made a very satisfactory showing.

The waters in northern Wisconsin abound in fish of a superior quality. The lake trout, found only in certain waters, are very plentiful in the spring and fall and afford abundant amusement for those desiring fishing of this nature. We camped on a beautiful rise of ground overlooking the Manitowish River. Our guides were capable and were informed as to the waters. The weather was perfect, the air clear and cool, and we left this delightful region with many regrets, mingled with the hope that the future might afford us an opportunity of repeating an experience replete with numberless enjoyable features.

W. E. WILLS.

CHICAGO, ILL., March.

ONONDAGA ANGLERS.

A MEETING of the Anglers' Association of Onondaga County, held in the rooms of the Business Men's Association last evening, was well attended, and a lively interest was shown in the work of the Association for the coming season. The election of officers for the next year resulted as follows: President, Richard W. Jones; Vice-President, John N. Babcock; Secretary, Walter S. McGregor; Treasurer, Charles Morey; Executive Committee, Geo. B. Wood, Wm. Everson, H. Edward Robbins, Amos Padgham and M. J. French. The Association has on its rolls 250 names, and these were added last evening: Dr. Chas. Barnes, Leonard Baldwin, J. D. Minturn, L. E. Ford, W. S. Morey, Frank B. Macumber, Myer Liberman, Chas. Laberde, Geo. H. Adams, C. S. Fowler, Chas. H. Miller, D. M. Lefever and J. R. Harlow.

John N. Babcock and Horace Kendall were elected a committee to draft resolutions and present them to the Fish Commissioners asking them to use their influence in procuring fishways in the Seneca and Oswego rivers. John N. Babcock addressed the Association. He said:

If the public fully understood the objects of the association the membership would soon be doubled. There is not a selfish interest, but the whole object of the association is to secure good fishing to the hundreds of people who can not afford to make long excursions in search of a day's fishing, whether for food or for sport. More fish, perch, pickerel, pike and bass have been taken from Onondaga Lake and its tributary streams by hook and line during the past year than ever before, and it is because nets have been to a great degree excluded and the spawning fish protected. The association has been untiring in its efforts to give the workman, who now and then tries his luck, a chance to get a good mess of fish. Most of the members of the association are fishermen who fish in many different waters and would care nothing about our lake here were it not for the fact that they wish to see everybody have a chance to get a mess of fish in a sportsmanlike way and not allow a few unprincipled people to take out all the best fish in the nets.

The association doesn't confine its work to Onondaga Lake alone, but all the near-by waters are protected, and many people from the surrounding towns and villages who make no effort to help on the good work reap the same benefits as the members of the association. The cost of membership is very small, and everybody who takes an interest in the sport is invited to join the association and help protect the fish in neighboring waters.

Efforts are being made to have fishways put into the dams in the Oswego and Seneca rivers, which would give the large fish from the great lake a chance to come up into our small streams and lake and make good fishing for every one. These arrangements would be a great benefit to the poor man who fishes in home waters, and who could then have good fresh fish on his table at slight expense. The first and second wards of this city have a great many fishermen who take large quantities of fish by hook and line, and but very few of them are members of any association. They are especially requested to join the association and help to protect themselves.

Mr. Babcock seemed to express the sentiment of the members present, all of whom expressed a determination to bring in all the fishermen in the county. Walter S. McGregor said that last year \$3,000 had been appropriated by the State to build fishways, but the Canal Superintendent had neglected to have them built so the money was refunded to the State. Wallace Tappan championed the bill in the Legislature. There are several fishways now in the Oswego River, he said, but they are worn out and are of no use. There is a bill now before the Legislature appropriating \$3,000 for the same purpose.

The secretary was directed to have circulars printed and addressed to all its members giving a detailed account of all the nets and spears captured, cases prosecuted for illegal fishing and the like.

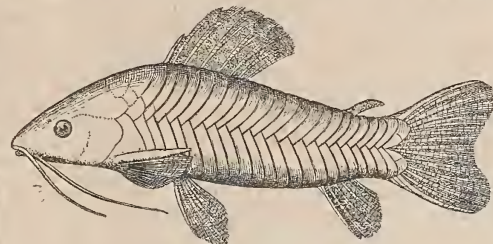
The association's fish protector, Harry Jackson, reported that during the past season he has captured and destroyed thirty-one nets, fifteen spears, and has prosecuted forty-one actions, many of which have been successful, and had also taken fourteen nets in conjunction with Constable Hawn. The secretary reported that most all the amendments suggested by the association in the bill revising the fish laws had been accepted by the Fish Com-

missioners. Votes of thanks were tendered President R. W. Jones and Vice-Presidents John N. Babcock, Walter S. McGregor, Henry Loftie, Edward Robbins, Charles Phelps and the executive committee for the good work they had done during the past season, and to the Business Men's Association for the use of its rooms.

It is expected that the next meeting of the association will be a large one, and many new names will be added to the rolls.—*Syracuse Herald*.

A CATFISH IN ARMOR.

THE cascadura of Trinidad or round-headed hassar of Demerara, one of the mailed catfishes, is a most remarkable animal. The term round-headed is applied to this species in distinguishing it from an allied fish known as the flat-head. The cascadura in general shape resembles our common catfish, but along the sides of the body are plates, arranged obliquely, 25 to 27 on each side. From this peculiar structure the term mailed-catfish is derived, and the body resemblance to the mailed knights of long ago is very striking. Its nest-building habits and the protection it affords both its nest and young are also highly interesting. These habits are fully recorded in the accounts of Dr. Hancock and M. Vipan. In the *London Zoological Journal*, No. XLV., July to October, 1828, Dr. John Hancock states that "the flesh of this hassar is yellow, firm, and very savory, especially esteemed by the Creoles in their soups, which they prepare with the addition of several vegetable articles, such as the okra, calabash, and four-fou, arum, and plantains, boiled and pounded into a sort of plain pudding. The whole is seasoned with pepper, salt and lime juice, and forms in reality one of the best dishes of the country, although many Europeans, out of a most ignoble pride and affectation, pretend to dislike it for no other reason, however, than its being a common dish amongst the slaves and lower orders. There are Creoles also who affect the same dislike to the four-fou and okra soup, and yet swallow it enormously in private." Dr. Gill tells me that there is a tradition in Trinidad to



THE CASCADURA OF TRINIDAD.

the effect that any one having once tasted of the flesh of this fish will never leave the island. This, it is supposed, means that the meat is so good that no one would be willing to move out of a neighborhood in which the fish can be obtained, for we have Dr. Hancock's statement that the flesh is eatable and, therefore, not rank poison.

Dr. Hancock states that the nest is formed of grass and leaves, the eggs laid in a flattened cluster, carefully covered over and protected by both male and female. The negroes are well acquainted with this habit, and by placing their hands near the nest attract the attention of the fish, which courageously attack the intruder and are easily captured. During the dry season when the pools dry up the round-head is said to bury itself in the mud, while the flat-head is said to march overland in quest of water, whole droves having been seen on the land.

In the Proceedings of the Zoological Society of London, for the year 1886, Part III., pp. 330-331, the following account of the breeding of the cascadura in an aquarium is given by J. A. M. Vipan: "Two cascaduras (*Callichthys litoralis*), from Trinidad, that I have in my aquarium, commenced making a nest on June 6th; but that, and the one they made on June 9th, they soon pulled to pieces. On the night of the 11th they began a new one; it consisted of pieces of *Valisneria*, all the leaves of the *Nymphaea* that were growing in the tank, which they bit off close to the roots of the plants, and a great quantity of river moss (*Fontinalis antipyretica*), each piece being two or three times the size of the fish, so that they must have had hard work to bring them to the surface. They worked these materials together by some mucous substance until the outside was hard, the whole being under a quarter of an inch thick; they next buoyed up the structure with a quantity of mucous foam until it was raised three-and-a-half inches above the water. The whole nest was nine inches long and seven inches wide, and somewhat resembled a finger glass turned upside down on the top of the water, with the interior filled with froth. The fish kept swimming close under it all the time on their backs and filling it with foam. When finished, on the 12th, the female shed her spawn between her ventral fins, which were clasped tight together, and when full, swam to the nest, and, turning on her back deposited the spawn in it; this occurred several times, the male each time putting the spawn in its proper place and covering it with froth. As soon as the female had dropped all her spawn the male took entire possession of the nest and would not let his mate go anywhere near it, and treated her so badly that I had to place her in another tank to save her life. Unfortunately the spawn was not good, only a few eggs hatching and the young fishes dying soon afterwards.

"I have bred great quantities of the little *Callichthys punctatus* from the Amazons, but they never made the slightest attempt at making a nest, always depositing their spawn all over the tank, and even on the floating thermometer kept in it."

The fresh waters of Trinidad are for the most part confined to creek and brooks, there being but few ponds and lakes. These streams are similar to our own, not wide and from six to eight feet deep in their deepest parts. Dr. Gill, who reported upon the fishes of this island in 1858, says that the cascaduras like the quiet places near the borders of vegetation, and are often found in company with the *Rhamdia* (another genus of this group of catfishes). The maximum size of the cascadura is 9 or 10 inches; those usually taken are from 6 to 8. The fish are usually taken with a cast-net, which when skillfully thrown or cast spreads out so as to cover considerable water. Dr. Gill is under the impression that small hooks

are also used in the capture of this fish, with earthworms as bait. The sketch presented is from a fish seven inches long, recently received from Trinidad.

It will be observed that Dr. Hancock says the male and female both protect the young, while M. Vipan states that the male drives the female away as soon as the eggs are deposited in the nest and will not allow her to approach them. In our common channel catfish of the Potomac river it was ascertained by Drs. Ryder and Gill that the male alone takes care of the young. (See Bull. Fish Commission, 1883, p. 226.)

BARTON A. BEAN.

WASHINGTON, D. C.

WASHINGTON ROD AND GUN CLUB.

THE Washington Rod and Gun Club held its first annual meeting on Thursday evening, March 17, in its club rooms, 1237 Pennsylvania avenue, N.W. The following officers were elected for the ensuing year: President, S. W. Stinemetz; Vice President, Joseph H. Hunter; Secretary and Treasurer, John B. Peyton; Captain, Thomas F. Doyle; Lieut., John Wanstall. The foregoing, with Charles L. Burgess, constitute the executive committee. Hon. W. D. Bynum, M. C., was appointed chairman of the committee on the preservation of game. Quite a number of new members were elected, among them six Congressmen. The traps are located by the Potomac at the foot of Twenty-first street and are put out every fair day. Tuesdays and Fridays are regular days. As many as 3,800 clay birds have been used for one day's shoot.

This club was organized about one year ago for the encouragement of legitimate sport with the rod and gun, and has representative and enthusiastic members in both branches. Commissioner McDonald has at the request of the club promised liberal plants of game fishes in the waters of the Potomac above Washington, and the committee for the preservation of game, under the efficient leadership of Mr. Bynum, can be relied upon to take proper measures for prohibiting the illegal killing and traffic in game so prevalent here.

The club has very convenient and comfortable rooms, lacks anything that might be called luxurious, as every sportsman's club should, and they are well able to look after the comforts of any bona fide sportsman, though stranger, coming to Washington. The reading tables are well supplied with various journals, and your correspondent was apprised of the fact that *FOREST AND STREAM* is always there and appreciated by the members. Among the numerous pictures and stuffed specimens a badly mutilated quail is to be seen. The label attached reads: "The only bird ever shot by Martin Flaherty was chewed by his dog." It is a forlorn looking object. Andrew Hancock is the champion crow hunter and a fine bird attests his skill.

BOSTON ANGLERS.

THE law making an annual close time on smelts comes on in Massachusetts March 15. This year just previous to that date the boys made some good hauls. One of the best catches mentioned was that of Mr. Claude H. Tarbox, already mentioned in the *FOREST AND STREAM* as one of Boston's greatest lovers of angling. Mr. Tarbox loves to fish so well that even going alone is not a hindrance to him. He is a grain salesman for A. P. Aldrich & Son, and frequently, when on the road, opportunity is offered for his favorite pastime. But usually it is not easy to find company, and hence Claude has learned "to go it alone." On the smelting trip in question he was alone. The result was 344 smelt, some of which tipped the scales at just half a pound. The mess completely filled a bushel basket. The trip was to Rowley's River in the night time, on Saturday previous to the 15th. Armed with a lantern and rubber boots the fisherman took his way up the middle of the stream, running with the cold snow water. His fishing tackle was his hands. A smelt or a body of smelt was seen, when a pass with the hand is made and the fish or fishes are thrown to the shore, to be gathered into the basket later. Claude describes this as "rare sport," and his friends are equally enthusiastic over the elegant fried smelts that graced their tables the next day.

SPECIAL.

Another sportsmen's club has been born in the Hub. Its name is the Magaguadavic Fish and Game Club. About thirty devotees of the rod and gun make up its present membership. The preserve lies in New Brunswick, and the club expects to control eventually about 75,000 acres. The capital stock will be fixed at \$20,000, consisting of 400 shares of \$50 each. The club house is situated on the shores of Lake Utopia, N. B. The fishing will consist principally of landlocked salmon and trout, with game enough to furnish good sport. The officers elected at the organization of the club are Dr. Heber Bishop, president; C. C. Powers, vice-president; Henry Lovejoy, secretary and treasurer; Messrs. A. M. Robinson and L. D. Chapman, house committee; Messrs. G. W. M. Guild, W. L. Davis, John E. Avery, E. B. Whittier, and H. A. Hoak, executive committee. W. R. S.

NEW HAMPSHIRE CAMPS.

LANCASTER, N. H., March 18.—*Editor Forest and Stream*: Colebrook, N. H., the point from which all the hunting and fishing resorts in northern New Hampshire are reached, seems to be getting an abundance of good things. First is the lease of the Connecticut Lake hotel and camps by O. C. Bumford, a Colebrook man; and last Saturday Hell Gate Camp on Diamond River (Amasa Ward's old camp) was sold to a party of Colebrook gentlemen, who propose to fit it up in good shape and place it under first-class management for the accommodation of sportsmen as heretofore. "Brad" Bailey is to have charge, and that means that all will be done to make the stay of visiting sportsmen a pleasant one. "Brad" is thoroughly familiar with that region, having spent the last three seasons there.

I understand that it is proposed to change the names of the camps from Hell Gate Camps to Deer Lick Camp. Why the change should be made I fail to see. The camps are at the foot of Hell Gate Falls; have always been known as Hell Gate Camps ever since Amasa built his first "stake down" there, the name Hell Gate Camp being given it by him. I think it the most appropriate name that could be applied and I am sure this feeling will be shared by all who have visited the place. I hope the sportsmen who have been in the habit of visiting these