

rid of, as the hen went on laying an egg every day until there were nine, when she commenced sitting about August 23th. She broods nine, and sits on her nest, and takes a dust bath, and returns in a few minutes not to leave again until the next day. The cock bird now spends most of his time near the cages of my mooring bird and robin, seemingly taking no interest in his own household, but the moment one enters the room he utters a low warning note that is answered by the hen, showing that like many married people, they understand each other better than others give them credit for. He does not seem to enjoy his present companions, or to display any interest in the nest, and consequently cannot say from personal observation whether or not it has been correctly determined as the sheephead of the Illinois and the Great Lakes, (*Hoplosternon grunniens*, Raf.) As I understand that the fish has been submitted to Prof. Goode of the U. S. National Museum, and returned by him with this identification, I have no doubt whatever that the sheephead and gasper-gou are specifically the same. Such peculiarities of the Southern water as are mentioned, cannot be reasonably attributed to climate, local conditions, peculiarities of food, and so on. Until within the last four or five years this fish has not been eaten in Illinois, as far as I know, but the large numbers of them caught by seine fishermen have always been left to die upon the banks. Lately, however, a demand for the fish has sprung up, and it is now generally offered for sale, both in the local markets along the Illinois and Mississippi Rivers, and in St. Louis, under the name of "white perch." At Alton, I found the fishermen this summer dressing only the smaller specimens and rejecting those over a foot in length. At Pekin, however, all the so-called white perch, which are large enough to pay for dressing, are regularly shipped and marketed.

The food of this species in the Illinois River, as determined by a careful study of the contents of twenty-five stomachs from fishes, ranging from an inch in length up to the seven-foot adult, consists chiefly of insects and crustaceans, and the contents of the gill net, while the fish are alive, lives almost entirely on mollusks, including the thick-shelled varieties which other mollusk-eating fishes cannot nibble.

THE GASPER-GOU.

Editor Forest and Stream:
My old friend, Mr. D. B. Wier, of Crockett's Bluff, Ark., writes me concerning the gasper-gou, and asks me to reply through the columns of FOREST AND STREAM. I have never seen any of the specimens he has mentioned, and consequently cannot say from personal observation whether or not it has been correctly determined as the sheephead of the Illinois and the Great Lakes, (*Hoplosternon grunniens*, Raf.) As I understand that the fish has been submitted to Prof. Goode of the U. S. National Museum, and returned by him with this identification, I have no doubt whatever that the sheephead and gasper-gou are specifically the same. Such peculiarities of the Southern water as are mentioned, cannot be reasonably attributed to climate, local conditions, peculiarities of food, and so on. Until within the last four or five years this fish has not been eaten in Illinois, as far as I know, but the large numbers of them caught by seine fishermen have always been left to die upon the banks. Lately, however, a demand for the fish has sprung up, and it is now generally offered for sale, both in the local markets along the Illinois and Mississippi Rivers, and in St. Louis, under the name of "white perch." At Alton, I found the fishermen this summer dressing only the smaller specimens and rejecting those over a foot in length. At Pekin, however, all the so-called white perch, which are large enough to pay for dressing, are regularly shipped and marketed.

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A FINE DISPLAY IN AQUARIA.

At the great Industrial Exhibition now in progress in Cincinnati, there is a good exhibit of aquatic life in the department of aquaria which is thus described by the *Commercial*, of that city:

The display in this interesting department is located in the south arc which separates the main building from the south wing. The tanks are arranged along the railing of the Floral Hall. It far exceeds the display of any former exhibit. These aquaria are under the auspices of the Natural History Department, of which Mr. W. A. Collard is Chairman and Prof. F. W. Clarke and E. A. Kebley are associates. Charles Dury is manager.

It is the purpose of this article to give a brief account of the more interesting species on exhibition. The first tank contains a new variety of carp of the "finny" or double-tailed carp (*Cyprinus auratus*). Nothing in nature can excel the beauty and grace of this group, as they float slowly about through the clear water of the tank. They are fed daily on bread and worms. These fish are from Messrs. Muth and Eckhardt, of Mt. Healthy, and are one year and four months old. The second tank contains gold fish (*Cyprinus auratus*) of selected varieties, which are less than five months old. They are also from the Mt. Healthy fish ponds.

Tank 3 has in it two of the Bvarian goldfish (*Idus melanatus*). This is a newly introduced and beautiful fish, very hardy, and especially adapted for ponds and ornamental waters. These specimens were imported by Messrs. Muth and Eckhardt, and were shipped in the patent transporting tub invented by R. Eckardt, of Lübbüchen, near Guben, Germany. Out of twenty that started per steamer Elbe from the west coast of the continent, only five returned, and were not changed during the voyage. Captain Willigerod, of the Elbe, takes great interest in acclimatization of valuable food animals and gives them care and transportation gratis. The "goldfish" grows rapidly and is omnivorous.

Tank 4 contains dogfish (*Acan calcar*), ring perch (*Percina fluviatilis*). The dogfish is a pirate without a redeeming quality, the terror of other fishes, and a nuisance to the fishermen, as its flesh is pasty, soft and worthless. When it falls into the hands of the Lake Erie fishermen it retires from the interview in a pulverized condition. The other occupants of the tank (the perch) are an excellent pan fish, and give some sport to the angler. These specimens were kindly presented by D. T. Howell, Superintendent of the State hatchery at Toledo.

Tank 5 contains the "blue-spotted sunfish" (*Channostethus cyanellus*). This is the familiar pond fish. The tank also contains the "pumpkin seed" (*Ambloplites auratus*) a beautiful sunfish from the Erie. It is the best company, the "long-nosed gar" (*Leptostosteus osseus*) only surpassed in general worthlessness by the dogfish. These gars were presented by Mr. Henry Douglas, of the Sandusky hatchery. The "pumpkin seed" are from Mr. Howell.

In tank 7 are black bass, (*Micropetris subvaldensis*) the gamest of North American fishes, and of great value as a food fish, presented also by Mr. Howell.

Tank 8 contains the "rain quill rostrata". These specimens are from Troy, on the Hudson River, N. Y.; they travel up the river at night and keep close to the shore to

avoid swift currents and hungry enemies. The eel-catcher takes advantage of this habit, and sets his traps, which consist of branches of willow, with a log at one end, and into this the little eels squeeze themselves in fancied security to rest. When the fisherman makes his rounds he rudely disturbs them by slipping his wire under the bunch, and they are caught. It is in this way the thousands are taken to stock rivers all over the country. The transportation is safely effected by using a box 14 inches long, 9 inches wide and 5 inches deep; this will carry two thousand eels. It is lined on the bottom with cotton flannel and filled full to the top with the willow branches, and through a small hole in the top ice water is allowed to drip. In this way they can be transported without losing a single one. This year, eel-ladders, to enable eels to ascend rivers obstructed by mill-dams, have been introduced in Germany. Mr. D. T. Howell has planted many thousands of this valuable fish in the waters of this State. He kindly presented these specimens.

In tank 9 are the peccles brook trout (*Salmo subvaldensis fontinalis*) from the Caves Springs, Erie county, Ohio. These springs belong to a fishing club, and the fishing privilege is confined to its members. It swarms with beautiful fish, some of which weigh as high as four pounds. These specimens were received through the kindness of Messrs. Post, Ferris and Douglass, of Sandusky. In tank 10 are fringe-tailed carp, four months old, from the breeding ponds at Mt. Healthy. Tank 11 contains small bass from the large lot recently distributed by the Cuyler Club from the Sandusky hatchery.

Tank 12 contains leather carp (*Cyprinus nadius*). No. 13 contains mirror carp (*Cyprinus reticulatus*). No. 14 contains the common carp (*Cyprinus carpio*). These three species are the famous food carp of Europe, and are being largely introduced in this country. Almost any ponds are suitable for them. They grow with a rapidity almost beyond belief. The fish spawned on May 9 in Messrs. Muth & Eckhardt's ponds are now from four to eight inches long. They grow even more rapidly when fully fed.

Mr. Watkins, superintendent of the fisheries of Minnesota, mentions in FOREST AND STREAM of six-year-old carp that weighed twenty pounds. In the same paper of January 27, 1881, is an article on the growth of the carp in America, by Mr. Mather, the celebrated expert on pisciculture. He quotes a letter from Baron Von Behr, President of the German Fishery Society, giving some interesting facts in regard to the growth of the carp in America and in other countries. The leather carp, not having scales, bears transportation better than the other two, for where the scales become knocked off the fish is liable to fungus. Raising carp is destined to become in this country, as in Europe, a great and profitable industry for the farmers and others having ponds. The writer was invited to go carp fishing in one of Messrs. Muth & Eckhardt's carp ponds. Several very fine ones were taken weighing from three to ten pounds. The fishing can be taken to an end by a very large fish getting away with the fishing line, hook, bob and sinker. They bite readily, and come out of the muddy water shining like a mirror. In these ponds are also the blue carp.

In tank 15 are the same *Cyprinus auratus* of the same age as those in tanks 2 and 10, but retarded in their growth from overcrowding in the pond, there being more fish than food. It is the intention to keep adding choice specimens to the display.

At the east end of the aquarium is an alligator case, in which are three fine little specimens, exhibited by H. C. Stewart, of the Vienna bakery. In the same area Mr. Klepper, of Covington, exhibits some beautifully arranged ornamental aquariums for private house decoration. Mr. Klepper exhibits a number of fishes best adapted for such aquariums. In his collection are specimens of the spotted Trifon (*Dionetys viridescens*) and the large darter or log eel, *Percina caprodes*, not represented in the other collection.

OPUSSIS IN FLORIDA.—KITES.—Seeing several items in late numbers of the FOREST AND STREAM relating to opussis I will add my mite. I spent July and August in my whorl nest, asquito Inlet, and while there we were troubled by opussis eating our young grapes and peapopples. I set a box trap and caught fourteen opussis and a skunk within a month. Here is how it was done: The first night a female opussis was caught. Some time after killing her I noticed movements around the "pouch," and upon examining the same found seven young ones, no larger than ants, hanging to teats inside. Two nights after that an old female got in the trap, but got out again by pulling the kite, or swallow-tailed falcon hawk, is a rare bird in this State. They are seen on the east coast, where I believe they also breed. This is the most graceful of all birds in its flight. In fact, its soarings, circles, darts and scrolls might well be called "the poetry of motion." It appears to fly so easy, without any effort and scarcely a movement of the wings, yet it is as swift as an arrow. I have noticed that it eats its food—consisting principally of snakes—while on the wing.—C. H. C., Jacksonville, Fla.)

BREEDING OF QUAIL.—Fishkill on the Hudson, Sept. 10. —*Editor Forest and Stream*, O. J. E. S. In his article regarding Iowa game, in FOREST AND STREAM of August 31, is undoubtedly right about an occasional brood of quail being scarcely able to fly in October, although "Ches. A. Peake" thinks it altogether improbable. A friend and I were out after woodcock on the seventh of the present month, and we came across a brood of quail that had just left the nest, as some of them had pieces of the shell sticking to their backs, and as quail are not able to fly under the most favorable circumstances, such a brood to fly under an abundance of food, etc., in from three to four weeks, it is not probable that so late a brood as this will take wing before the middle of October, and certainly will not be fit to shoot before quite the last of November. It is not an uncommon event to find quail only two-thirds grown in November, and yet I saw a covey of these birds a week or more ago that were quite mature. Hence, I think, is a good indication that the birds are not so late to brood in some localities when the season is favorable.—Geo. F. ARDEN.

Game Bag and Gun.

OPEN SEASONS.—See table of open seasons for game and fish in issue of July 20.

THE RANGE OF THE SHOTGUN.

Editor Forest and Stream:
For heaven's sake do not turn loose upon your unoffending readers the "long range shotgun liar." Hoopnoses and trout liars are harmless enough, but the former class are vicious and wholly incorrigible. At least, if they are to have a hearing, make each one set up a soft pine board at the exact range at which the bird is claimed to have been killed, mark upon it size of snipe bird, and then fire at this target five charges, such as were used to kill the bird, and then report the result "upon honor," and whether or not any of the shot, if they struck the shape of the bird marked out, "stuck" in the board.

I remember a test once applied to one of these fiends. He claimed, and was ready to make oath, that he had killed one of the birds in his bag—at some fabulous distance. I do not remember exactly how far, but a bet was once made of a wine supper for the party, that he could not take one of his birds, pluck it, set it up at the same distance at which he claimed to have killed his bird, and in ten shots hit this target, or if he did, that the shot would stick in the bird, he to use the same charges he had been using all day, etc., some of which he yet had. The bird was twice hit, but neither time did the shot pass through the skin, and he paid for the supper, and he has never since killed birds at extreme ranges. My dear sir, I did not pay for that supper, though I helped to eat it.

I am well aware of the fact that many birds are killed at extreme ranges for a shotgun, have often seen it done, and have made such shots myself, but never at such ranges as I have often heard tell of.

A few shots at a proper target will soon teach almost any man the killing power of a gun is with a given charge, and just about how far it will kill every time, provided always it be properly held or cared.

The smaller number of shooters know to within very narrow limits just what a gun is capable of doing. One of this number never makes one of these astonishing long shots. But the larger number of gunners know little or nothing of the actual powers of their guns, and the less they know very naturally the further they can and do (if) kill game, the acting power of the gun to the contrary notwithstanding.

Estimated distance as a rule is never correct in such cases.

It seems that "Dell," of Sank Center, Minn., is not a believer in the "twenty-rod gun." He is right. No one who has ever tested his gun at "patterns" will assert and prove that it will kill seventy times at above fifty yards. In fact, the best of them often "miss" at less distances, and to kill "every time" is practically impossible. If a man asserts ownership of such a wonder put him down as a "Saxou," for they, it is confidently asserted, "will kill anything at any distance." J. E. S., OSGOODA, Ia.

A WILD GOOSE CHASE.

"HERBERT'S A BRICK" was my very emphatic explanation as I laid down my old file of a sporting paper containing a report of an ill-starred "Turkey Hunt in Missouri," my pointer slumbering on a mat at my side, and my pipe smoked out by energetic puffing occasioned by the zest with which I had enjoyed the narrative.

"Yes, Herbert's a brick. He's not ashamed to acknowledge that he has had days when he came home with an empty game-bag. Let your Niurods and your Aetons and your dapper fellows who swear by Diana and sport breech-loading rifles, 'Who cares?'"

Perhaps the reader may, if he be a person of suspicious habits, begin to suspect that the above ebullition proceeds directly from a fellow feeling. I am free to say that it does. But apart from this I quite agree with Herbert in the sentiments with which he closes his letter. He says: "Who is the next one to relate the incidents of an unsuccessful day? Pass him along." It may be an agreeable change, I have been satisfied with the right and letters of the unerring and the pictorial lags, which they always employ before us. Let us have the other side for a while—just for variety." Those words have a true ring, and have given me courage enough to stand being laughed at for relating a ludicrous experience of my own which occurred some years since, and which I jealously guarded as a secret from my most intimate friends. The story is not exactly of an unsuccessful day's shooting, but rather the unsatisfactory termination of a very successful one.

It was a bright October morning, crisp and keen, and the village, as viewed from the old bridge which crossed "the lake," as the people called it, never looked more bright and cheery. The smoke curling in faint columns from the chimneys of the farm houses proclaimed the preparation of the morning meal, as with my old friend Charley W., I stepped into the boat for our long-talked of duck hunt. The boat was about ten feet long, and was covered with books from which I had much to read, and was in a wretchedly covering it. At the bottom was an improved mattress, on which we reclined at full length, or as nearly as we could. A hole in the stern through which an oar was run and turned by Charley formed our sole power of propulsion. We had proceeded slowly along for some three miles in the direction of a well-known feeding place, when a warning from my friend admonished me to look sharp. Lying flat for some ten minutes we had drawn so close to the shore that the danger of running aground was imminent. We could see the ducks swimming around not three hundred yards off.

Our progress was slow, painfully slow. Yet, we were getting nearer; we were conscious that the appearance of the boat resembled a huge patch of floating weed, and were satisfied it would never alarm the ducks. Nearer we approached. They had not, as yet, noticed us. The time had come. "Pick your birds," whispers Charley. They were getting suspicious, a large drake gave a start and away they fly, and our guns bring down two as fine birds as you would wish to look upon. Hastily gathering our game, we move on at a more rapid pace than before. I was elated; it was my first duck. And tell me of the sportsman who can forget his first duck—the wild, ecstatic thrill it gives him? His memory is as perennial as "love's young dream." From indifferent I became boastful, and I fear with an undue display of asperity, declared duck-shooting to be