

Perhaps some of the readers of FOREST AND STREAM will say I am a little "soft" on the mountain scenery of western North Carolina. I cannot help it if they do. I believe that all true worshippers of that good old man, Izaak Walton, are affected by beautiful scenery as badly as I am. Old father Izaak never saw such a lavish display of beautiful nature as we have in our country, and I believe the western end of the Alleghenies and the Blue Ridge beat any other mountains east of the Rockies in North America; the heavy growth of timber, the dense thickets of bushes and vines, many of which are made beautiful in spring and summer by being covered with brilliant flowers, cover the rough sides of the mountains to their summits, thereby hiding their roughness from view; so that very few of the peaks present the rough, bold and desolate appearance of the Rocky or the White Mountains.

RUSH.

THE "GOLDEN TROUT."

Editor Forest and Stream:

In 1885 a large female trout was sent to the Museum of Comparative Zoology at Cambridge, Mass., from Dan Hole Pond by Fish Commissioner Luther Hayes. Through some inadvertence its arrival was attended with uncertainty concerning its history, and it was some time before letters of inquiry led to a correct understanding. The specimen was the original of the figure 16 of which our friend Dr. Bean speaks on page 313 of the current volume of FOREST AND STREAM, Nov. 6, and which he identifies with the species described by himself as *Salvelinus aureolus*. Not wishing at the time to commit myself to a positive identification without seeing more than a single one, and after being repeatedly assured that no European species had been introduced in the pond whence it came, while waiting for other and smaller ones for comparison, the trout was provisionally placed as a variety in a species known to occur in the region. That it was not permanently located will be made evident by turning to page 19 of my article on the "Salmon and Trout" in the Nineteenth Annual Report of the Commissioners on Inland Fisheries of Massachusetts, 1885, where the only reference is the following: "Figure 14 represents a ten-inch male [*Salmo fontinalis*], figure 15 a female of about eleven inches, and figure 16 a female of twenty-one. The latter [a figure of the Dan Hole specimen] differs in various respects from the others, as in the nearly uniform brownish of the back, shape of caudal, etc. A knowledge of the younger stages from the same locality may lead to the separation of this form. Its shape resembles that of the salmon."

It was only after the acquisition of additional specimens, through the friendly interest of Mr. Walter M. Brackett, and Fish Commissioners E. A. Brackett and E. B. Hodge, that I felt warranted in positively asserting the fish to be the "Alpine trout" of Europe (*Salmo alpinus* Linn.). Subsequent acquaintance with this trout has given me no reason for change of opinion, or for doubting that, with my specimens before him, the Doctor would agree with me. Figures of *S. alpinus* in Dr. F. A. Smit's Swedish monograph on the Salmones represent the Sunapee trout quite as well as if they had been drawn from them. In another article the subject will be dealt with at greater length.

S. GARMAN.

CAMBRIDGE, MASS., Nov. 17.

[Doctor Bean was unable to identify the golden trout with the introduced saibling for several reasons, although he observed and wrote about the striking resemblance between the two species before publishing the description of *Salvelinus aureolus*. He had compared a moderate number of the Sunapee trout with saiblings from Germany and Norway and Prof. Smith's beautiful figures had been consulted. Some of the differences recorded by him at the time were as follows: The saibling has 10 gill-rakers below the angle of the first gill-arch, a slender stomach and a very narrow band of hyoid teeth; the golden trout has 14 gill-rakers below the angle, a stout stomach, and the hyoid teeth in a broad band. It is a matter of record also that the first saibling eggs sent to New Hampshire by the U. S. Fish Commission were received and hatched at Plymouth in 1833. Two years later Col. E. B. Hodge sent a golden trout weighing 5 1/2 lbs. to the National Museum, and wrote that much larger ones were to be had. It is not probable that the saibling will grow to such size in two years from the egg in any waters. Dr. Bean is desirous of having this subject fully investigated, and will readily acknowledge his mistake if he has redescribed an old trout. He has several statements of trustworthy persons to the effect that the golden trout was caught in Sunapee Lake long before the saibling became a subject of artificial culture, and that it inhabited Dan Hole Pond seventy years ago.]

THE CONGER EEL.

MESSRS. Theodore and Thomas Smith, of South Norwalk, Conn., have been catching a great many conger eels this fall. This eel was formerly unknown at South Norwalk, and there has been considerable speculation as to where it came from and what it could be. It has been used to some extent for the table, and while the flesh is very much lighter in color than that of the common eel its flavor is stronger. The congiers taken by the Messrs. Smith average less than 1 lb. in weight. They were caught in fyke nets, out among the Norwalk Islands, near shore, in comparatively shoal water.

The conger eel is described in most books under the name of *Conger vulgaris*; other names for it are *Conger oceanica* and *Conger conger*. Dr. Day says it is known at Aberdeen, Scotland, as the devil eel. In Great Egg Harbor Bay, where it is not uncommon, the fishermen call it the sea eel. The species rarely ascends into fresh water. It is voracious and extremely pugnacious, frequently jumping at its captor like a snake, and biting viciously. It grows to a length of six feet, and is said to attain to the weight of 100 lbs. In the Southport Aquarium, England, a conger in 5 1/2 years increased in weight from 3 lbs. to 90 lbs. Some individuals of extremely large size are caught by cod fishermen off Noman's Land. On our coast the fish is not generally eaten, but the Portuguese and Spaniards use it in great quantities, and at one time it found a ready sale in Edinburgh, Scotland, although in British waters it was generally considered unfit for food. As an aquarium fish the conger is very attractive, because of its sleek appearance and pleasing colors. Two examples were brought recently from Chesapeake Bay and are now living in the National Aquarium at Washington.

A SUPPOSED HYBRID TROUT.

Editor Forest and Stream:

The inclosed sketch is an exact outline drawing of a brook trout (*S. fontinalis*) found in the market here in bulk with a number of lake trout (*Salvelinus namaycush*), taken with gill-net on the north shore of Lake Superior on the 1st inst. In general form, color and markings, save the red spots, it had all the appearance of the latter fish; but the square tail, branchiostegals, fin rays and teeth formula were those of the former. It was a male spent fish, 16 in. in length by 3 1/2 in. in girth at the front of the dorsal fin, and weighed just 2 lbs.

I am no believer in natural hybridism, but this fish comes the nearest to it of all I have ever met with.

I might add that the markings from back to belly were entirely those of the lake trout, lacking, both on the back and fins, the beautiful tortoise tracery of the brook trout. The red spots were double the usual size and on a background of round white, or bluish white, spots. The fish had passed as lake trout and been overlooked as such until I made the discovery.

DR. E. STERLING.

CLEVELAND, OHIO.

[The sketch shows seven red spots above and fourteen below the lateral line. The tip of the lower jaw is hooked upward so that it reaches almost to the level of the eye. The form is much more elongate than is usual in the brook trout, and the upper parts are shown to be covered with irregular long blotches, which are always noticed upon the hybrid between the brook and lake trout. In our opinion the fish was a cross between these two species, artificially produced, and the probability is that it was obtained by fertilizing eggs of the brook trout with milk of the lake trout. Several of the State Commissions, and some private fish culturists, have been engaged in hybridizing the two species mentioned, and, as the cross is a fertile one, the subdivision has been continued at will; so that individuals deriving only one-quarter or even one-eighth of their parentage from one or the other species are recorded. We agree with Dr. Sterling as to the improbability of natural hybrids among the *Salmonidae*. It is a pity that the specimen was not preserved in the Doctor's cabinet, so that its probable origin might have been satisfactorily determined. A good figure of the hybrid between the lake and brook trout was published in FOREST AND STREAM of May 9, 1889, and another description of this cross appears in our issue of Jan. 17, 1889. The sketch by Dr. Sterling represents the fish as having a very short head and with the upper jaw reaching to below the middle of the eye. In many respects the fish differs from our notion of the hybrid between lake and brook trout, and we can only hope that additional specimens may yet come into the hands of Dr. Sterling or some other naturalist, who will state their characters in detail.]

DEATH OF SALMON AFTER SPAWNING.

THE following interesting and important letter of Mr. Thomas Mowat, dated at New Westminster, B. C., Sept. 6, 1890, was addressed to Judge James G. Swan in reply to an inquiry concerning the return of Pacific salmon to sea after spawning. Judge Swan forwarded the letter to Col. Marshall McDonald, U. S. Commissioner of Fish and Fisheries, to whom we are indebted for the opportunity of reproducing it:

I have much pleasure in informing you that I have proof without doubt that the *Oncorhynchus*, or Pacific salmon, do in many cases return to fresh water annually, for the purpose of reproducing their species. I have proof of this in the case of the quinnat (*Oncorhynchus chowicha*) and suckeye (*O. nerka*), and I am confident, from observations that I have made, that the cohoes (*Oncorhynchus kisutch*) do return in larger numbers than those first mentioned. During the seasons of 1884, '85, '86, I made use of the leather or harnessmaker's punch to mark the quinnat salmon after they had been partially stripped of their eggs, and were obliged to be returned to the pens. The marking was done by punching one or more holes through the adipose dorsal fin and then passing a piece of colored cloth or twine through the hole, so as to distinguish them from the fish that had not been handled. Sometimes we cut a portion or the whole of this fin off, and these fish were returned to the water after we had finished stripping them. Two successive years later a few of the fish so marked passed through our hands and were recognized, and I learned that some had been taken by the netters. It must be understood that the strings were not left on the fish. The fin was found to be withered somewhat, with the hole partially grown up. Since the season of 1887 we have been operating on the suckeye, and, as I have already described, some of these were marked in a similar way; but owing to having so many in the pens we had to keep different marks on them, so that the tails of some were bent or doubled up and a V-shaped piece taken out. Two of the fish marked in this manner were taken by netters this season and sent to me. One so marked was shown to the editor of the *Columbian* at my office, hence the report.

My contention has always been that at least four species of our salmon return to the rivers to reproduce, the fourth, including those alluded to, is the steelhead, of which none die except by accident. My opinion is that 75 per cent. of the quinnat salmon survive that ascend from 75 to 100 miles inland; those that ascend from 100 to 1,000 miles, or reach the summit of the Rocky Mountains are reduced from various causes down to from 5 to 25 per cent. The percentage of the suckeyes that survive is slightly under that of the quinnat, while that of the cohoes is very large, as they do not ascend so far inland and have a better chance to return. The qualla and humpbacks die in large numbers, as they are more pugnacious, spawn in shallow water and are more liable to disease.

I quite agree with you as to the views held in reference to the salmon returning; they no doubt descend very rapidly and either in the deep water of the center of the streams or along the shores, where they are less apt to come in contact with nets. I have on several occasions noticed the spent suckeye salmon swimming down this river [Frazier] toward the gulf, and I have been informed by the netters that they have taken them; but of course there is not the same chance of capturing them on their return to the ocean.

THOMAS MOWAT.

[The qualla referred to in the above communication we suppose must be the dog salmon (*Oncorhynchus keta*), and the humpback is the *O. gorbuscha*. The steelhead salmon, of course, is really not a species of *Oncorhynchus*, but belongs to the genus *Salmo*, and has very different habits from the species of *Oncorhynchus*. It spawns in the spring and is found in the rivers spent before the *Oncorhynchus* are ready to spawn. The question of the return of the Pacific salmon to the sea after spawning is a very important one and worthy of much more extensive investigation than it has yet received. We have never quite believed that the quinnat and red salmon (*Oncorhynchus chowicha* and *O. nerka*) all die after spawning, as stated

by some very good authorities, and yet this is merely a matter of belief and may not be warranted by the facts in the case. We have seen the mending dog salmon (*O. keta*) in fresh water near the sea; we have, also, observed the apparently complete annihilation of the humpbacks after spawning, although not more than a few yards from salt water. What is needed in the case of the quinnat, red salmon and silver salmon is observation of the streams which they ascend for the purpose of spawning continued until the fish descend to the sea. In this way only can the problem be solved.]

ANGLING NOTES.

ANOTHER fishing season has come and gone, leaving us a wealth of pleasant memories to recall during the long winter evenings. Rods and reels are put away, and the breechloaders now engage the sportsman's attention. Unfortunately death has sadly thinned the ranks of the anglers the past few months and we have to mourn the loss of several prominent sportsmen and good companions. John Lowery will be greatly missed at the South Side Sportsmen's Club, when they gather down at the club house next opening day; and Florida will see Dr. Ferber no more. And poor Endicott, who used to be the life of our party down at Bill Chadwick's, at Squan Beach, every season, has also gone to the "happy hunting grounds" where all good sportsmen hope to go. Young Fred Poor's death was also a great shock to his friends and fellow members of the Laurentian Club. Always bright and cheerful, his presence was like a ray of sunshine in camp, and he will be sadly missed next season.

Mr. Theodore Gordon is one of the most thorough fly-fishermen we have ever had the pleasure to meet. He believes what is worth doing at all is worth doing well, so he pays attention to all the little details that go to making a good angler; and above all, will not use bait under any circumstances. He would as soon shoot a quail on the ground. He thinks that we are all wrong on the subject of artificial flies, and believes we ought to discard various foreign fancy patterns, and copy our own natural insects and flies as closely as possible. He carries out his theory in practice. On the Neversink last season no one brought in better baskets of trout than Mr. Gordon, whether they used fly or bait.

We presume it is a waste of time again to caution our readers about putting away their rods at the end of the season without having them put in order; but if they would only pay attention to this caution they would save both themselves and the rod makers much trouble. Besides they would be in better condition next spring. Many neglect this until a day or two before they start on their fishing trip; the result is the workmen do not have time to do the rods justice, the varnish does not get half dry and the whole thing is hurried and unsatisfactory. Also beware of putting rods in closets near furnace flues or up high near the ceiling, where it is always hot and dry, but lay them on the floor of a cool spare room, if possible.

The striped bass fishing still remains fair at Hell Gate, and quite a number have been taken near Robbin's Reef. The method described in these columns last month, that is the gang and spoon with a sandworm for bait, seems to take the largest fish. A good many have been lost owing to the cheap tackle used by many of the fishermen, who are not up to handling the big fellows, and think anything will do, but after a striped bass grows to be a five-pound fish he is not to be trifled with in the swift waters of the "Gate," and it requires good tackle to hold him.

THAT MAMMOTH CARP.

THE capture of the mammoth carp here last Friday morning has been the subject of conversation among the brothers of the rod and reel. The following facts, with reference to the capture of the carp, I have secured from one of the lads who assisted in taking it. The fish was caught about 10 o'clock in the morning in the shallow waters of the Sandy Hill Brook, quite a distance up the stream from the Reservoir Pond, where the fish has probably been for some years, as it is eight years since some eight or ten German carp were placed in "Higgins Pond," which was made by placing a dam in a suitable location upon this Sandy Hill Brook. This dam was carried away by a flood some four or five years ago, when the carp therein found their way down the brook to the reservoir pond of the paper mill, some three or four miles below, which is quite a deep body of water, but not of very large dimensions. Shortly after the freshet that carried the dam out of the Higgins Pond two or three of the German carp were captured in the paper mill pond—one of 1 1/2 lbs. and a third of some 2 1/2 lbs. was captured by the mill hands, but they being ignorant of the name, nature and character of the fish were unable to tell what they were. The capture of this recent fish, however, brought to mind the fact of the taking of the other fish and the fact that the Higgins Pond was stocked with German carp, so that the matter of identification is now an established fact. I am inclined to think from my conversation with the lad who assisted his brother in the capture of the 11 lbs. carp, that there is still in the reservoir pond one or more of the fish of considerable size, and it is simply a matter of time to demonstrate this fact, as the inhabitants of the neighborhood where the fish were captured seem determined to find out if such is the case, as all the small boys, factory hands and fishermen in general are trying their skill to secure another of the monsters if there are more of them to be secured.

WORONOC.

WESTFIELD, MASS.

RAINBOW TROUT IN COLORADO.—The success of the rainbow trout in Colorado, where it was recently introduced, is wonderful. The species thrives even better than in its native waters and is spreading rapidly. As for its size in its new home, General John Pierce, ex Fish Commissioner of the State, has caught specimens in the Platte, near Denver, weighing 5 or 6 lbs.—J. G.

A NEW NAME FOR BLUEFISH.—Dr. Hugh M. Smith, of Washington, D. C., has informed us that the bluefish is known in Rhode Island waters as Spanish mackerel. The latter fish is evidently unknown in that region, or the two could not have been confounded.