

# SALMON TROUTS AND CHARRS.

THEIR RANGE AND LURES.

By Wm. C. Harris.

**A**LTHOUGH dominated by the love of his favorite pastime and enthusiastic in its indulgence, the angler, if well poised, is not content with a series of delightful outings, but desires a knowledge of the habits of the quarry he seeks, the range of its habitat, the number of its variant forms, and the characteristic qualities that differentiate them. In his search for this knowledge he will enter a broad but useful field of investigation.

There are thirty-one species of salmon trouts and charrs native to American waters, and three forms that have been introduced from Europe. Of these thirty-four varieties, fifteen (including two of foreign origin) are salmon trouts, and nineteen (including the European saibling) are charrs. I will as briefly as possible give the classification, habitat, and the characteristic traits of both the salmon trouts and charrs. But with this host of variant forms before him, the angler will naturally ask in the first place:

"How can we tell which is a salmon trout and which a charr among this confusing multitude of forms of our favorite fish?"

This difficulty is easily solved. Put your finger in the mouth of your capture, and if you find the vomer, a bone situated on the front part of the roof of the mouth, flat, with teeth on its body, and behind these an irregular single or double series of teeth, you hold in your hand a salmon trout. If you find the vomer much depressed, convex, and shaped like a boat, with teeth on the head of the bone and none on its shaft, you have a charr under inspection.

The most numerous in species and classification is the "cutthroat," variously and locally known as the "black spotted trout," "Rocky Mountain trout," or "sa-pen-que," or "good fish." Its scientific name is *Salmo clarkii*, and its range of habitat is in all the clear streams from Kamschatka and Alaska, south to northern California.

This fish is at once recognized by the crimson slash on its lower jaw, its low dorsal fin, slightly forked tail fin, short

head, deep-red lower fins, and the profuse black spots of varying sizes on its back and fleshy part of its tail. The dorsals and tail-fin are covered with small spots, with a few on the head, but the belly is seldom spotted. The sea-run specimens are uniformly silvery, and the males have a lateral band and patches of light red.

In addition to this typical species, there are ten other variant forms. They are:

"The Columbia River trout"—*Salmo clarkii clarkii*—which is found in all the coastwise streams from Puget Sound to Humboldt County, Cal. It has the red slash or cutthroat mark on its lower jaw, very distinct, and is profusely spotted.

"The Yellowstone trout"—*Salmo clarkii lewisi*—is very generally distributed west of the Rocky Mountains and along the route of the Union Pacific Railway. It differs very slightly in form and coloration from the so-called "Columbia river trout," and like it has the crimson throat slash very prominent. I am personally familiar with the angling qualities of this cutthroat, having spent many months on its waters of habitat, particularly those of the Yellowstone river and the affluents of the Upper Missouri. I found it in the comparatively shallow waters of the Gallatin, Madison, and Jefferson rivers to be more game than in the Yellowstone, and those of the Gallatin were somewhat similar in their habits to our Eastern brook trout (*fontinalis*), in that they sought the shallows and shelter of the little bays and the shelving sides of rocks from which they darted fiercely at the lure of feathers.

The fish in the affluents of the Missouri did not average over a pound, but those of the Yellowstone were as heavy as seven pounds. All took the standard trout flies used on Eastern waters, and the angling tourist to the far West needs only to stock his fly-book as he would do when fishing for trout in the brooks or rivers of the Atlantic slope. I caught no trout in any of the waters named that were without the "crimson slash,"

which, by the by, is somewhat of a misnomer, for the slash is horizontal in direction and not crosswise

The cutthroat trout is not so game when hooked, as the Eastern brook trout (*fontinalis*), nor is it so delicate in flavor, but its size, abundance, and picturesqueness of its habitat will, when generally known, make a trip to the Yellowstone and the headwaters of the Missouri River a part of the angling life of all "well-rounded" trout fishermen. One striking feature of the cutthroat is the wide difference in form and color, varying with its habitat. By this I do not refer to the transient coloration which obtains in the Eastern trout and other species arising from the changing physical condition of the stream inhabited by them, but the fixed variations in color and markings of this species in different waters often one hundred miles apart,

To illustrate: The trout of the Yellowstone is not only a broader, stouter fish than those of the Gallatin and Elk Creek (near Heron, Mont.), but has a deep, golden tone diffused over its sides, tinting the white of the belly with a tinge of yellow. This coloration does not exist to the same extent in the fishes from the Gallatin or Elk waters. In fact, the Gallatin fish has but little of the golden tinge, a brown back and silvery sides being its special adornments. I found the Elk Creek fish invariably with regular parr markings almost identical with those of the young salmon and with a strikingly brilliant metallic sheen of silver spreading over its sides and belly.

*Salmo clarkii gibbsii* does not appear to have a popular or local name. It has no red below the lower jaw like that on the species named above, and is at best only a provisional classification. It is found in the streams of Idaho and Washington.

"Lake Tahoe trout," "Truckee trout," "Silver trout," are the popular names for *Salmo clarkii henshawi*, a salmon trout of distinct character, found in Lake Tahoe, Cal., and in other lakes and in many of the streams on the eastern slope of the Sierra Nevada. Its average weight is about six pounds, but occasionally one up to twenty-five and thirty pounds is taken. This fish is common in the San Francisco markets, and is much esteemed as a quarry by the

anglers of California. They are caught either by still fishing or trolling; when following the first-named method a depth of forty to fifty feet of water is found, and live minnows are used as bait. A correspondent of *The American Angler* describes the handline trolling tackle as being "a spoon with an immense reflector, cone-shaped, with two wings and a lot of shark hooks below it." Certainly a death-dealing device, and aptly deserves the title of "barbarous Tahoe rig," which has been applied to it.

This trout may be distinguished by its long and comparatively slender and acute head, the muzzle being somewhat pointed, but bluntish at the tip; the dorsal fin is small, and the caudal short and rather sharply forked. Its uniform green coloration above the median line, varies in tone when the fish is taken from other waters than Tahoe lake; the sides are silvery, with a strong shade of coppery red along the lateral line, and, as a rule, it is profusely black spotted on the body, belly, head, and sometimes on the snout.

The "trout of Eutah lake" is classed as *Salmo clarkii virginalis*, and in the lake named reaches the size of eight to twelve pounds. It is one of the prized edible fishes of that section. The usual black spots characterizing the cutthroat trouts, are in this species rather small but profuse, except in the alkaline waters of Eutah lake where the fish is very pale in color and the black spots infrequent.

"The Rio Grande trout," *Salmo clarkii spilurus*, is one of the esteemed angling fishes of the West. It reaches a length of thirty inches and like all its congeners rises freely to an artificial fly. It is profusely black-spotted, the spots being larger on the posterior parts of the fish, with very few on the head, and most numerous on the fatty dorsal and tail fins. It is found on the upper Rio Grande river and is, in specific characters, apparently identical with the fish next named, A correspondent writes me:

"I believe I have tried about everything in the way of artificial flies for the Rio Grande trout and have found that for steady use during the months of August and September, the red-bodied gray hackle is the most successful of them, all. As a rule I have a little of everything in my fly-books, but always

take a big bunch of gray hackles. When and where to catch them may be answered by stating that August, September, and October yield good scores, but August is the most fruitful month and the most pleasant one, as in September the nights get pretty cold. The Rio Grande trout take freely flies tied on hooks from No. 4 to No. 8 in size, and there are a good many fine fish yet to be had in all our mountain streams."

"The Colorado River trout"—*Salmo clarkii pleuriticus*—is one of the most prized of angling fishes by the Waltonians of Colorado and adjacent sections. It is a large, handsome trout and its anatomical features are almost identical with those of the typical cutthroat, *Salmo clarkii*, before described. It is very variable in coloration, "sometimes profusely spotted, sometimes with large spots and occasionally with strong golden sides." Its sub-specific name, *pleuriticus*, signifies "a red-lateral band," which is usually present on these fish, and leads somewhat to confusion, as the rainbow trout by many fishermen is identified by the crimson band on its side. In the case of the Colorado trout, however, the band is more of a golden shade, and faintly shown in comparison with the strong crimson one on the side of the rainbow. It is said to be on record that a Colorado trout weighing over twenty-six pounds was caught in the Rio Grande River, but the average is probably below three pounds, and the size varies with the size of the streams in which they are caught.

There is a singularly-colored trout found in Waha Lake, Washington, a mountain lake without outlet. It is of small size and anteriorly is of dusky-bluish color, with no silvery tints and with dark spots only on the first dorsal, caudal, and fat dorsal fins. It rises well to the fly.

The remaining two species of salmon trouts known by their specific name of *clarkii*, or "cutthroat trout," are the Arkansas River or "green-back" trout—*Salmo clarkii stomias*—and yellow-fin trout, *Salmo clarkii macdonaldi*.

The "greenback" is a small black-spotted trout, rarely reaching a pound in weight. It is very common in all the tributaries of the Arkansas River and in the Twin Lakes. It spawns in the spring, in snow water if possible, and it will leave spring water to find

snow water. In winter, however, it seeks for warmer waters. It is said that when the winter breaks up the trout are too blind to see bait. In color it is green or almost black on the back. The lower fins and the throat are bright red, but there is not much trace of a lateral band, and the black spots are large and mostly confined to the posterior part of the body. It rises very freely to the fly.

The yellow-fin trout (*macdonaldi*) is only found in Twin Lakes, Colorado, and can be easily identified by the bright yellow on its lower fins and a broad shade of lemon-yellow along its sides. It is a light olive above the lateral line, with the characteristic crimson slash under or along the lower jaw. It takes the fly readily, and it is frequently found on the shallow gravelly beds of Twin Lakes.

We now reach the steel-head or hard-head trout, or salmon trout (*Salmo gairdneri*) of the Pacific slope; those that do not go to sea in the more southern waters seem to be anatomically allied to the rainbow; those of the far North apparently blend with another species of the steel-head species, while those of intermediate waters approach very closely in form and markings to the cutthroat trout.

Be all this as it may, the angler finds in the steelhead one of the grandest fighters on the rod to be met with in the world's waters. It is a fly-taker or natural bait devourer; on seizing the first-named lure, he is an acrobat, leaping repeatedly from the water. When he has swallowed the natural bait, he surges deep and strong. His leaping trait naturally leads the angler to believe that he is closely allied to the rainbow, the only trout on the Pacific slope that rose to the writer's fly, and leaped frantically into the air. This fish is particularly abundant in the Columbia and Frazer Rivers, and is occasionally taken in the upper Sacramento River of California. Like most of the salmonoids of the Pacific Coast, this fish revels in local nomenclature. The Russians call it "scomba;" the Kamchatkans, "my kiss;" the Indians, "humaana," to which we have added steel-head, hard-head, and salmon trout. It is a large trout, sometimes exceeding twenty pounds in weight, and is migratory in its habits. I have taken several three-

pounders with the fly in the upper waters of the Salmon River at least fifteen hundred miles, as the river ranges, from the ocean, and our artist painted one from many specimens taken from the traps of the market salmon fishermen of upper Puget Sound, when the fish were on their way to their Spawning grounds, in company with three or more species of Pacific salmon. The most striking physical markings of the steelhead is the wide, square tail in the adult fish, and the broad, crimson lateral band in the breeding season, which coloration, in the California fish particularly, justifies to some extent its claim of kindred to the rainbow.

There are but two specific or variant forms of the steelhead. One, which is found solely north of California, in the interior lakes, and in the Columbia and Frazer Rivers, is classified as *Salmo gairdneri kamloops*, but is generally known as the "kamloops" trout, or "stittse."

Of the salmon trouts only the rainbow (*Salmo irideus shasta*) and the German or brown trout (*Salmo fario*) are found in waters east of the Rocky Mountains. The former have been transplanted from the McCloud River of California, and this form of the rainbow is the only one cultivated by Eastern fish-culturists. It may be known on sight by the characteristic red or crimson band which is always found in the male fish, and extends along the lateral line. In the female this band is sometimes faint, and occasionally absent when the fish is in its native waters; of the many thousands of rainbows that we have seen in preserved waters this lateral band of red was always present, and on no other species of salmon trout have we observed this characteristic mark, although the cutthroat trout (*Salmo clarkii pleuriticus*) of the Colorado River is described by Jordan and Evermann as having "usually a red lateral band;" the sub-specific name *pleuriticus*, from two Greek words signifying "from" and "side," having been given this species in allusion to the red lateral band.

The charm of the rainbow to the angler lies in its great game qualities, and, strange to note, these are displayed more strongly in the transplanted fish than when it is captured in its native western waters. In the two streams where we have caught them, the Au Sable

of Michigan and the Au Sable of Essex County, N. Y., they far exceeded in gameness the brook trout (*fontinalis*), and the most distinguished and pleasurable feature consisted in their jumping when hooked on a slack line, a quality not possessed by our Eastern trout (*fontinalis*), or any other species of trout, either in the eastern or western waters. The black bass (small-mouthed), the rainbow, and the grayling, are the only fresh-water fish known to us that come out of the water, hooked, of their own sweet will. The Eastern trout, and possibly a few other stream fish, will sometimes lunge out when held tightly on the rod, but the acrobatic feat of leaping free from the water as a means of escaping capture is a quality possessed by few fishes sought for by the angler. Of course I except the salmon (*salar*) with his lesser brother in weight but not in agility, the ouananiche.

The rainbow trout has a very wide range of habitat in all the mountain streams of California and adjacent States from the Klamath River to San Luis Rey, probably entering the sea and growing larger there. They have been subdivided into six species, the most interesting of which are the Kern River trout and the golden trout *Salmo irideus aquabonita*. The sub-specific title, "beautiful water," is derived from the name of a cascade on Volcano Creek, Cal., where this fish abounds.

The Kern River trout (*Salmo irideus gilberti*) is abundant in the Kern River, Cal., and it is merely a matter of "put in and pull out" to fill the creel. They are sturdy fighters under water, but at no time during our stay of a week in this section did we observe "the leap," which we closely watched for and hoped would occur. This fish is not likely to become a favorite with the angler, as he is only found in the upper ranges of the Sierras of California, which are two days' journey on mule or horseback from a railroad station. It may be distinguished from its brethren of the rainbow genus by its small scales, profusely spotted back and sides, and spots on the upper part of the pectoral fin. It reaches the weight of eight pounds, and rises freely to the artificial fly, but has no special excellence as a table fish.

The golden trout (*Salmo irideus aquabonita*) has probably elicited more interest from the angling fraternity, as it

certainly has from the ichthyologists, than any other fish of American waters. It is one of our "poetic fishes," as the grayling has been from the time of the Druids. It lives in almost inaccessible waters that on their lower stretch leap down a steep and rocky gorge, with small pocket holes here and there, that contain but little water but many golden trout. We journeyed by pack train three days to reach their home in the Mt. Whitney region. Then we passed about six hours on Aqua-bonita brook, and caught several dozen of these golden beauties.

We found these fish to rise freely to our flies, and, as a table fish, they surpass in flavor all the salmon trouts of the western coast. The beauty of their coloration surpasses description. Above the lateral line olive prevails; the sides and belly are of a light golden, and the dark cross shades (parr markings) of the immature trout are always present. Along the middle of the sides there is a deep scarlet lateral stripe, and on the middle line of the belly another broad scarlet band extending from chin to anal fin, and still another fainter shade of golden crimson coursed from anal fin to tip of caudal. The entire region of the head was uniformly a bright orange, and dark spots, large and well marked on the fleshy part of the tail, appear on the dorsal fin, which, like the other fins, were deeply tinted in orange, with a faint black tip on the ventral fins; yellowish-white on the dorsal, and the caudal olive, tinged with orange on its lower edge, and profusely black spotted. The pinkish color inside of the mouth and light orange of the gill cavity added a new charm to the transcendent coloration of this aptly named golden trout. This fish is not only an exceptional table fish, but next to the rainbow, is the most game, when hooked, of all the small salmon trouts of the western waters.

The intermediate rainbows not described are two in number—the common brook trout of western Oregon—*Salmo irideus masoni*—and the nissuee, or no-shee trout of the upper Sacramento River. The first-named seldom weighs a pound, but the latter reaches twelve pounds. Both fish rise freely to the artificial fly.

The introduced salmon trouts are the German or brown trout (*Salmo fario*),

called von Behr trout by the United States Fish Commission, and the Loch Leven trout, the first-named being brought from Germany and the second from Scotland. Many authorities question the differentiation between these two species, although the presence of red spots on the brown trout and the absence of them on the Loch Leven fish is a strongly marked characteristic.

The brown trout, owing to its great growth and consequent ability and practice of eating our smaller native brook trout (*fontinalus*), has lost popularity among those who seek for desirable fish to plant. When introduced, they should be in waters where our native trout do not live. They, as well as the rainbow, are adapted to waters of a higher temperature than our brook trout, and although the brown trout possesses no game qualities equal to those of *fontinalis* or the rainbow, it may be planted in private waters where the species may live supreme, thus giving a variety to the fishing.

The Loch Leven trout (*Salmo levenensis*) was brought from Scotland about fifteen years ago, and has been planted with moderate success in some of the waters of the Eastern and Western States. It takes its name from the old lake adjoining the dismantled castle within which Mary Stuart was imprisoned by Queen Elizabeth. It is very closely allied to the brown trout and is a beautiful and gracefully formed fish and may be distinguished from its congeners by the absence of red spots on the body, which, however, faintly appear on specimens more than four years old, but so dimly as scarcely to be seen. This peculiarity of coloration is disputed, and it may be another illustration of the effect of food and environment on the coloration of fish, or it might be an error in labeling the tanks at the shipping end, thus "mixing the babies up." The absence of red spots on this trout, when less than four years old, is a matter of fact with Scotch anglers, and as the Loch Leven trout seldom grows beyond three pounds and consumes four years in getting to be about two pounds in weight, but little confusion will occur over this red spot theory.

Monographs of the charrs (*salvelini*) will appear in a subsequent issue of OUTING.