



HARVARD UNIVERSITY.



LIBRARY

OF THE

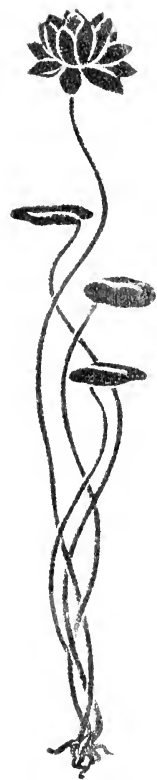
MUSEUM OF COMPARATIVE ZOOLOGY.

41514

GIFT OF

*William F. Blapp.*

*November 7, 1914.*





















---

*HIS Edition, printed on  
Hand Made Paper, is  
limited to Three Hundred  
and Fifty Copies, of which this  
is Number.....*



*FOREST, LAKE*

---

*AND RIVER*

---

*VOLUME TWO*

---







*The Fishes of New Eng-  
land & Eastern Canada*

BY  
FRANK M. JOHNSON

VOLUME TWO



BOSTON ·

MDCCCII  
*A. M. Johnson.*



H. Johnson

*The Fishes of New Eng-  
land & Eastern Canada*

By  
FRANK M. JOHNSON

VOLUME TWO



BOSTON .

· MDCCCII

*Copyright, 1901, by*  
FRANK M. JOHNSON

*All rights reserved*

MCZ LIBRARY  
HARVARD UNIVERSITY  
CAMBRIDGE, MA USA

---

UNIVERSITY PRESS · JOHN WILSON  
AND SON · CAMBRIDGE, U. S. A.



# CONTENTS

---

## VOLUME TWO

---

	<i>Page</i>
THE PIKE FAMILY . . . . .	I
A MONARCH'S DEFEAT . . . . .	II
A DAY WITH MASCALONGE <i>Geo. W. Aileen</i>	15
THE MASCALONGE . <i>Edw. Everett</i>	33
THE PIKE . . <i>C. J. D. Chamberis</i>	39
THE PIKE . . . . .	51
THE PICKEREL . . . . .	53
THE PERCHES . . . . .	57
THE WALL-EYE . . . . .	75
THE WALL-EYED PIKE <i>Eugene W. Carthy</i>	77

---

# CONTENTS

---

	<i>Page</i>
THE SPIKE-ARMED WIGHTS . . . . .	87
THE YELLOW PERCH . . . . .	91
THE SUNFISHES . . . . .	95
A STRING OF SUNFISH . . . . .	111
THE PUMPKIN-SEED . . . . .	113
THE CLOSE OF DAY . . . . .	117
BLACK BASS OF THE RAINBOW . . . . .	121
THE BLACK BASSES . . . . .	<i>J. T. Newhall</i> 127
THE SEA-BASSES . . . . .	139
WHITE PERCH . . . . .	147
THE LANDLOCKED WHITE PERCH . . . . .	149
A KNIGHT OF NEPTUNE . . . . .	155
THE STRIPED BASS . . . . .	<i>Heber Bishop</i> 157
THE SMELTS . . . . .	165
SMELTING TIME . . . . .	171
CATCHING THE SMELT . . . . .	173
THE MACKERELS . . . . .	179

---

# CONTENTS

---

	<i>Page</i>
THE HERRINGS . . . . .	187
THE LAMENT . . . . .	195
THE SHAD . . . . .	197
THE MINOR FISHES . . . . .	201
THE STURGEONS . . . . .	203
THE FRESH-WATER GARS . . . . .	207
THE BOWFIN OR DOGFISH . . . . .	209
THE CATFISHES . . . . .	213
THE BULLHEAD . . . . .	219
THE CATFISH AS A ROD AND TABLE FISH . . . . .	221
THE SUCKERS . . . . .	223
THE SUCKER AS A ROD AND TABLE FISH . . . . .	229
THE EELS . . . . .	231
TO AN EEL . . . . .	233
MORE ABOUT EELS . . . . .	235
THE MOON-EYES . . . . .	241
THE GIZZARD SHADS . . . . .	243
THE CARPS . . . . .	245
FISHES THAT VISIT THE UPPER TIDAL WATERS . . . . .	249

---

# CONTENTS

---

	<i>Page</i>
A PLEA FOR THE SINGLE HOOK . . . . .	265
MINNOWS AS BAITs . . . <i>W. B. Harris</i>	273
SMALL FRY . . . . .	289
MINNOWS . . . . .	291
FISHING RODS AND REELS <i>J. Henshall</i>	295
SOME WAYS OF CASTING ARTI- FICIAL FLIES . . . . . <i>E. S. Osgood</i>	317
TROLLING . . . . . <i>G. N. A. Burkes</i>	327
TALES TOLD BY THE COOK . . . . .	337
A FOREST SONG <i>B. L. Wheeler</i>	347
INDEX . . . . .	353

# LIST OF

# ILLUSTRATIONS

Dr. F. M. Johnson (portrait) . . . . .	<i>Frontispiece</i>
The Eastern Pickerel . . . . .	<i>Facing page 2</i>
The Mascalonge . . . . .	“ “ 2
A Monarch's Defeat . . . . .	<i>Pages 11, 12, 13</i>
The Pike . . . . .	<i>Facing page 38</i>
The Pike . . . . .	<i>Page 51</i>
The Sauger . . . . .	<i>Facing page 58</i>
The Pike Perch . . . . .	“ “ 74
“They, in magic moonlight rings” . . . . .	“ “ 86
Yellow Perch . . . . .	“ “ 90
Common Rock Bass . . . . .	“ “ 96
The Yellow Bass . . . . .	“ “ 96
The White Bass . . . . .	“ “ 96
“When, a truant from the school” . . . . .	“ “ 110

---

## LIST OF ILLUSTRATIONS

---

Common Sunfish . . . . .	<i>Facing page</i>	112
“The kiss of Sunset’s parting” . . . . .	“ “	116
Small-mouthed Black Bass . . . . .	“ “	118
Large-mouthed Black Bass . . . . .	“ “	118
Bass Flies . . . . .	“ “	126
The Striped Bass . . . . .	“ “	140
“’Neath wharves whose timbers run to waste” . . . . .	“ “	146
The White Perch . . . . .	“ “	148
“As rests an eagle, wearied with his flight” . . . . .	“ “	154
The Common Smelt . . . . .	“ “	166
Common Mackerel . . . . .	“ “	180
The Spanish Mackerel . . . . .	“ “	180
The Common Herring . . . . .	“ “	188
The Shad . . . . .	“ “	196
The Sharp-nosed Sturgeon . . . . .	“ “	202
The Bowfin or Dogfish . . . . .	“ “	208
Common Bullhead . . . . .	“ “	212
The Channel Catfish . . . . .	“ “	212
The Common Sucker . . . . .	“ “	222
The Common Eel . . . . .	“ “	230
“Or spear you by the full moon’s yellow light” . . . . .	“ “	232
The Moon-Eye . . . . .	“ “	240
Some Curious Fishes . . . . .	“ “	242
The Tautog . . . . .	“ “	250

---

## LIST OF ILLUSTRATIONS

---

The Long-nosed Sculpin . . . . .	<i>Facing page</i>	250
The Sheepshead . . . . .	“ “	250
Fresh Water Cusk . . . . .	“ “	250
The Codling . . . . .	“ “	250
The Weakfish . . . . .	“ “	250
The Bluefish . . . . .	“ “	250
The Cunner . . . . .	“ “	250
The Eel-back Flounder . . . . .	“ “	250
American Sole . . . . .	“ “	250
The Red-bellied Minnow . . . . .	“ “	274
Storer's Minnow . . . . .	“ “	274
The Common Chub . . . . .	“ “	274
Fresh Water Gudgeon . . . . .	“ “	274
Some Single Hook Lures . . . . .	“ “	328
A Forest Song . . . . .	“ “	348

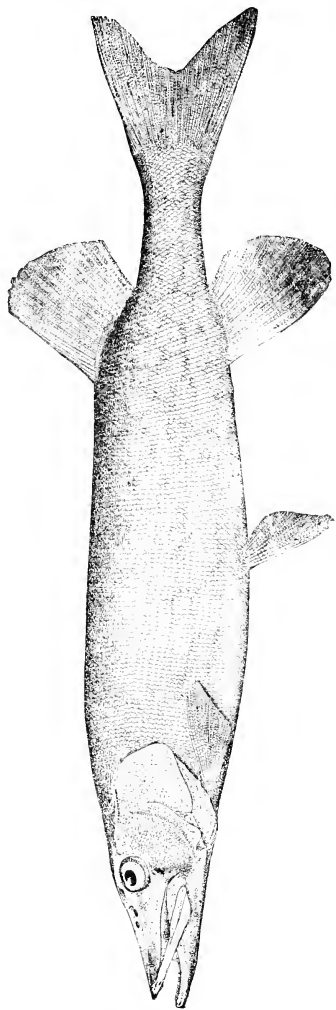




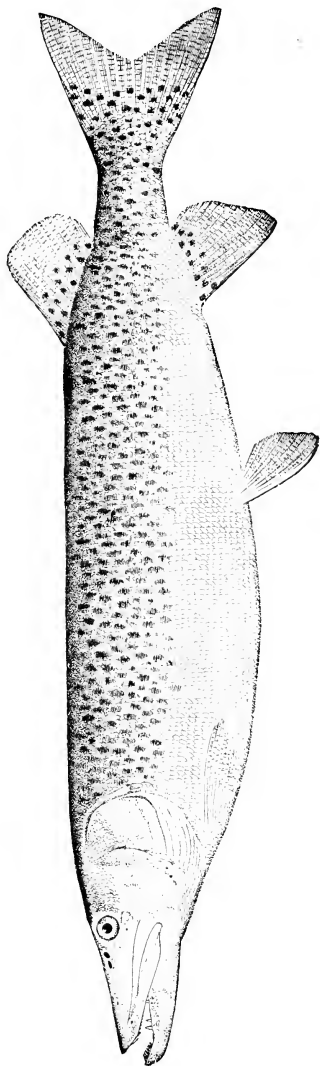
*THE PIKE FAMILY*

---

11. THE EASTERN PICKEREL. *Lucius reticulatus*
21. THE MASCALONGE. *Lucius masquinongy*



(1)



(2)



# Forest, Lake, and River

---

## THE PIKE FAMILY

---

**T**HERE were five species of the pike family, *Luciidae*, and two sub-species or varietal forms. The former are known as the mascalonge, *Lucius masquinongy*; the pike, *Lucius lucius*; the eastern pond pickerel, *Lucius reticulatus*, and the banded pickerel, *Lucius americanus*; also the little pickerel, *Lucius vermiculatus*, which is not found in New England or Canadian waters.

The two varietal forms are both of the mascalonge species, neither of which are found in eastern waters. They are without spots on the body, which are always to be seen in the typical species inhabiting the waters of the St. Lawrence system, the unspotted varieties being confined to those of the Mississippi system.

Taking up the species *seriatum*, the mascalonge (variously spelled "muskallunge," "maskinongy," "muscalonge," etc.) is the largest of the group. It may be recognized by its dark grayish color, round or squarish black spots on its sides, sometimes blending together forming bands, by its white

---

## FOREST, LAKE, AND RIVER

---

belly and black fins. They are not found in New England waters, except in Lake Champlain, but will doubtless become comparatively numerous by planting, as in many of the lakes of Maine a congenial habitat exists for them. In Canada, however, they are abundant in many waters. The maximum growth is said to be about five feet in length, with a weight of one hundred pounds.

The common pike, called "pickerel" in many localities, are abundant in eastern North American waters, ranging south as far as New York and northward to the Arctic Ocean. On the Pacific slope they are found in Alaska, and in Asia, in Siberia. There are no anatomical differences of a permanent character between the American and European species.

The pike may be distinguished from its congener, the mascalonge, by the whitish or yellowish spots on its body, arranged somewhat in rows, and a peculiar marking, a V-shaped speck, on each scale of the gill-cover, and sometimes on the upper part of the body. This fish grows to a length of four feet and a weight sometimes exceeding fifty pounds.

There is a little pickerel — *Lucius americanus* — which seldom exceeds the length of twelve inches; it is very abundant in waters from Massachusetts to

---

## THE PIKE FAMILY

---

Florida. It is only found east of the Alleghany Mountains, where it is known to every bushwhacking fisher-boy of the farm lands. We recognize it at once by its dark-green color and the many black curving bars on its sides, which are sometimes obscurely marked, by the black bar above the eye, and the one from the gill-cover running through the eye to the snout.

Fishermen are apt to confuse some of the perch family with that of the pikes, owing to the similarity of common local names, in widely distributed localities, for different species of fish. For instance, the wall-eyed or glass-eyed pike is a perch, and as such will be described in the chapter captioned "The Perches." Again, the prevalent practice in the west and in some sections of New England of calling the pike, "the pickerel," and in Canada the wall-eyed pike, "the doré," simply renders confusion more confusing.

We feel that it is good Samaritan fish work to make plain to anglers the differentiation between fishes taken on the rod; and those who read the above paragraphs with care should not err in describing and properly classifying a pike which they have proudly boated or grassed.

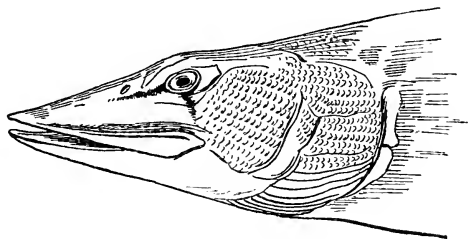
Anglers who desire more specific information, by which the different species of the pike family

---

## FOREST, LAKE, AND RIVER

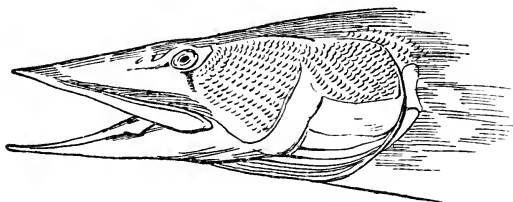
---

may be differentiated, will find scales on the cheeks and gill-covers of the pickerel; cheeks on the pike are scaly, but the lower half of the posterior



*Head of Pickerel*

On which the scales cover completely the cheeks and gill-covers.



*Head of Pike*

The cheeks are scaly and the lower half of posterior gill-covers are not so.

gill-covers are naked, without scales; while the lower half of both the cheeks and gill-covers are free from scales in the mascalonge. The draw-

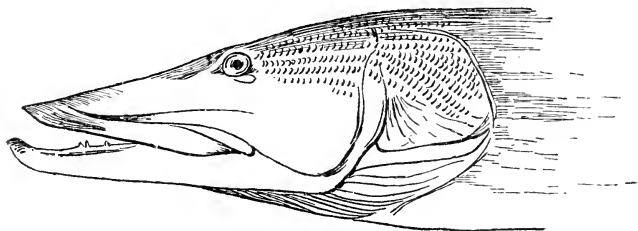


---

## THE PIKE FAMILY

---

ings on this and the preceding page will show the scale locations more plainly.



*Head of Mascalonge*

No scales on the lower half of cheeks and gill-covers.

In recent years the artificial propagation of mascalonge has been successfully accomplished by the New York Fish Commission. Their hatchery is located at Jamestown on Lake Chautauqua, and many waters of the state have been planted with these fish, care having been taken to place them only in lakes where desirable table-fish do not exist, the predatory habits of the mascalonge making sad havoc among other fish of lesser size.

The method of spawning of the mascalonge, particularly in some Canadian lakes, is somewhat peculiar and interesting. The female is much larger than the male, and the dorsal fin of the

---

## FOREST, LAKE, AND RIVER

---

former is often seen out of the water. The two fish take a circle of about one hundred yards, and move along side by side, when suddenly they make the water fly by a spasmodic movement lasting two or three minutes; then they stop for a while, and again move on, then begin splashing. This they keep up for several hours. It is supposed that when splashing about the eggs are scattered promiscuously, and this is the object of their erratic movements. In many waters, notably in Chautauqua Lake, New York, the mascalonge makes its nest on muddy bottoms, and in some lakes they seek the shallow reedy places.

The pike, *Lucius lucius*, and the pickerels have very similar habits to those of the mascalonge. They spawn in April and May, and in some localities earlier. The number of ova contained in a five-pound pike will range upward to 100,000, and nearly 300,000 have been taken from a fish of thirty pounds. They select spawning places similar in character to those used by mascalonge, and lie along the edges, or within them, of the vegetation around the shores of lakes and streams, darting at their prey with great speed and greediness; and, when hooked, fight fiercely in their long and deep surges, but never, unlike the mascalonge, coming into the air with frantic leaps for freedom.

---

## *THE PIKE FAMILY*

---

Nothing comes amiss to them, the garden worm, metal trolling spoon, live minnow, — all are grist to their mill, not excepting a young duck or gosling, or even an adult of either, if the pike's jaws be large enough to engulf them.





*A MONARCH'S*

---

*DEFEAT*

---

*In a cavern of the river —  
Deepest hole of all and blackest —  
Lurked the King of all the pike-tribe,  
Very old ; but all the fiercer,  
Since he knew he could not live long,  
Lurked for prey and not for pleasure ;  
And his armor green and golden  
Flashed, whene'er the sunlight struck him ;  
But it struck him very rarely.  
Time had taught, had brought him knowledge,  
Taught him how the bait most tempting  
Means the bitterest woe to biters.  
Such he long had shunned — with anger —  
When his dreams by such were troubled.  
But, at last, there came a dweller  
Of the forest to this river ;  
One whose brows of raven blackness  
Many winters and some sorrows  
Had begun to snow or silver.  
He, from youth, had hunted battle  
With a foe supremely worthy  
Of his craft and strength and valor.  
Soon he spied the lurking monarch ;  
Saw his risings and his plunges ;*

---

## FOREST, LAKE, AND RIVER

---

*His long swoops and sudden lunges ;  
Knew him for a foe worth fighting ;  
Tried him with persistent challenge.  
But no lure the monarch tempted ;  
He was game, but wondrous wary ;  
And the high hopes of his foeman,  
Day by day, he dashed, he blasted.  
Till, at last, unto the dweller  
Of the forest, on a sudden,  
Came a ray of inspiration,  
As he pondered on the rapture  
To be found in such a capture.  
Swiftly in his birch embarking,  
Down the stream he softly paddled,  
And amid the reeds and rushes  
Cast a net ; and swiftly landed  
Scores of bright and frisky fishes.  
One of these he now selected,  
In whose fine, firm flesh he deftly  
Hid two hooks upon a long line.  
Long the line and strong, though almost  
Like a thread of faery crystal.  
Days were many to the making  
Of that line, that crystal marvel,  
In its color like the waters ;  
And the hooks had both been tested  
By the fiercest flame ; the lightning's  
Flashes could not well be sharper,  
When the lightning stabs the stormcloud  
And all Heaven at once is weeping.  
Soon his birch goes lightly leaping*

---

## A MONARCH'S DEFEAT

---

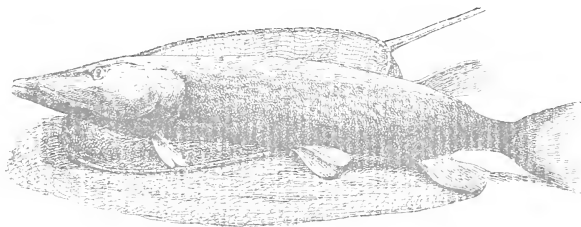
Up the stream once more, the ripples  
Round its prow in elfin laughter  
Swirling — till he gains a vantage  
Far above the deep, black water  
Where asleep, or so-pretending,  
Lurks the Monarch of the pike-tribe.  
Then the tempter, casting gently,  
Lets the current swirl his fish-bait  
Towards the pool — Oh! how it tumbles  
O'er the tossing water, till it  
    Gains the charmed calm, where, basking  
    In the shadows of black water,  
    Is the Monarch. On the instant,  
    Seeing not a line, but only  
    A small fish before him tumbling,  
    With a mighty dart he quivers,  
    And upon the dainty morsel  
Snaps his jaws in savage rapture.  
But the line so sudden tightens  
    That he feels the hooks — and writhing,  
    Mad he turns and plunges wildly,  
    Rears more wildly the next moment  
    Till it looks as if his body,  
    Flapping, tried to flap the breezes  
    In the face with furious insult.  
But the line, so slim and cunning,  
In its color like the waters,  
Guides him ever in his boundings,  
In his rushes, in his plunges,  
In his desperate endeavor  
To outplay the hand that masters.

---

## FOREST, LAKE, AND RIVER

---

*Vain his dashes and his lashes  
Of the foam to flying flashes !  
Vain his valor ; his endurance !  
At the last he finds his muscles  
Failing fast ; and slowly, slowly,  
From the big, black pool, his palace,  
And from memories of his kingdom,  
He is dragged up stream by power  
Not to be withstood or baffled.  
Just once more he feints and rushes ;  
But he only grows the fainter,  
And no respite now is granted  
In a resting to recover.  
Still, he rolls his eyes undaunted,  
When by gaff-stroke he is lifted  
To the skiff where smiles his victor,  
Who with praises for his gameness,  
And with proudly gloating eye,  
And in heart a song of triumph,  
Sees the River Monarch die.*





## *A DAY*

---

## *WITH MASCALONGE*

---

“Where order in variety we see,  
And where, though all things differ, all agree.”

**A**MERICAN sportsmen are blessed with vast areas to explore and a diversified fauna to engage their greatest enterprise and to reward their best efforts, without leaving the confines of their own country. And numberless lakes, rivers, and streams there are to allure and please the large and rapidly-growing sub-division which finds chiefest pleasure beside limpid streams and ruffled lakes, and which may be termed the guild of American Anglers.

The mighty tarpon, lordly salmon, and gamy trout have their devotees who are not slow to sing their praises; but for size, spirit, dash, fight, and all that gives fascination and excitement to piscatorial sport, no mean place must be accorded to the mighty *mascalonge*.

This monarch of fresh waters, as might be expected, attains greatest size in the St. Lawrence

---

## FOREST, LAKE, AND RIVER

---

and its tributaries, — one of the greatest rivers of the world.

It was my good fortune a few years since to spend my vacation near the village of Bedford, in the Province of Quebec, through which flows a turbulent stream known as Pike River. This river rises in northern Vermont, flows through several villages in the Eastern Townships of the Province, and finally pours its waters into that portion of Lake Champlain known as Missisquoi Bay, and thence, by the Richelieu River, into the St. Lawrence.

I had brought with me a number of trolling rods, multiplying reels, enamelled water-proof lines, spoon hooks, phantom minnows, St. Lawrence gangs, and the numerous *et ceteras* of the modern angler. Through the good offices of a man of prominence in the village, I secured the services of a local celebrity in mascalonge fishing, Baptiste Brisette, an old *habitant*, to accompany me as boatman and guide.

During the early hours of the forenoon I reported at the home of Brisette with a generous hamper of solids and liquids for the inner man, and a sufficient supply of paraphernalia to start a moderate fishing-tackle store, and found him awaiting my coming.

---

## A DAY WITH MASCALONGE

---

“Bon jour, bon jour, mon cher ami; we mek start rat off for quick.”

Dipping his fingers into the *benitier*, he devoutly made the sign of the cross, and with a wish for our success and safe return from his wife, expressed in French, we took our departure for the flat water of the river.

On our way to the landing near the deep pool, where the rapids end, we passed through nooks and vistas in glade and mead that gladdened the eye, — where nature in her seeming indifference and frowzy neglect furnishes many artistic sights which are really charming. The timid brown thrush is startled by our intrusion and flits into the denser growth beyond, and the bobolink sings his joyous, rollicking notes in the meadow.

All this seems lost upon the matter-of-fact Brissette, the patient basket-maker and successful fishman, because it is a part of his every-day life, perhaps.

But here we are at the landing. The different members of the trolling rod of split bamboo are assembled, the multiplying reel is well secured in its place, the thread-like silk enamelled water-proof line is extended through the guides and a latest pattern trolling-spoon attached.

---

## FOREST, LAKE, AND RIVER

---

Brissette scrutinized everything very closely without saying a word, but it required only an indifferent mind-reader to see that he was not favorably impressed.

Taking our places in the boat, he finally said :

“ Ver’ nice dat tings, ver’ nice. He don’t fool lunge, plobly, don’t he, hein ? ”

Feeling entirely confident of giving him a surprise, I was content to make answer,

“ Well, we ’ll see, Brissette. ”

The oars were in the hands of a master. The boat moved as smoothly as a swan upon the surface of the water. The speed was just right, — neither too fast nor too slow. Seventy-five yards of line were slowly paid out. Every nerve was tense and anxiety waited upon expectation. Slowly the miles were covered, but no pirate of the waters seized the tempting lure.

My faith in the burnished gold-and-silver spoon weakened after going a few miles, and I asked Brissette to desist from rowing until I mounted a phantom minnow.

“ Looks lak he no wants de jewelry mek on de Stait, hein ? ”

“ Well, Brissette, your lunge may not be so highly educated as ours ; but all the same I think I will tempt one yet. ”

---

## A DAY WITH MASCALONGE

---

“ Plobly,” answered Brissette, as he threw away the match after lighting his pipe, and puffing out volumes of smoke we moved gently along again.

The tip of the rod is raised and lowered a few degrees, tangents of a circle are described ; but all to no purpose, — all is “ but as sounding brass and tinkling cymbal ” to *Lucius masquinongy*.

We have covered five miles, and yet no rise or sign to encourage our patience and efforts.

My phantom minnow in turn is discarded for a St. Lawrence gang. More miles are covered without encouragement or reward. We near the few spreading elms near the turning point, and I suggest to Brissette that we go ashore for a little rest, and to eat our lunch.

Climbing up the precipitous bank of the river, we saw murky clouds rolling up toward the zenith from the western horizon. They were frequently intersected and illuminated by zigzag chains of lightning. It was evident that a heavy shower was not far off, and we deemed it wise to seek the shelter of an outlying barn some distance away.

We had just begun to dispose of our refreshments, seated upon mounds of sweet-scented, newly-gathered hay, when great raindrops beat a restful tattoo upon the roof. The wind grew in

---

## FOREST, LAKE, AND RIVER

---

intensity and volume, and soon we were in the midst of a blinding summer shower, punctuated by the flash and roar of the artillery of the clouds.

The face of nature was thoroughly washed, and after the passing of the shower vegetation appeared an intenser green.

Lunch was leisurely disposed of, together with something of a liquid nature, when Brissette broke in with :

“ Bah gosh ! ah ’ll tole hol’ hwomans we go for get big lunge, — for big tam. We ’ll fin’ big tam for sure ! ”

“ Yes, but we have n’t got our big lunge yet.”

“ Certainment ! Certainment ! des lunge he no lak for to heat de jewelry tings. He lak it de chub bettaire.”

“ Well, Brissette, I don’t know but you are more than half right. If you will rig up a ‘chub’ for me your way, we ’ll try our luck with him.”

“ Non, non, mon cher ami ! Brissette mak’ it de boat go long sof’ and easy lak. He no feesh. Nous ne comprenons pas for make dat wheel macheen go on dat leetly feedle-steeck.”

“ Oh ! You may row the boat just the same, and I will use the rod and reel. I only want you to get the ‘chub’ and put him on the hook for me your way.”

---

## A DAY WITH MASCALONGE

---

“ I no lak it dat way, me. I go on de store for melasses, and de docteur he come and he say, ‘ Brissette, I go for lunge las’ week. I don’t get one. For how you feex it de bait on de hook for catch him?’ De ministaire he say, ‘ Brissette, for how you coax de lunge? I feesh one, two, tree tam, and don’t see lunge at all.’ De Heenglishmans in village he ver’ smart, — he know every tings, — he say, ‘ Brissette, we go feesh wid you some tam, some day, noder day.’ Brissette no keep it de school, — Brissette he no go!”

“ Aha! ha! ha! Brissette, you old rascal! I see through it all! Here, take a little more of this liquid fun, — funny-guggle water I call it, — then tell me the story of the tipping over of the minister and the school-master.”

“ Hah! hah! ha! Bah gosh! I mos’ laf me to dead me! Ah’ll tole you all ’bout dat. De Heengleesh ministaire, — ce faux prêtre, — he no lak monseur le curé Tetrault, — just same like Henri huit mak’ it when he want it to mak’ marree wid some new hwomans, — he say one tam, — two tam, — vingt tam, ‘ Brissette, why you no ax me to go feesh wid you, — Brissette, I want to go one tam for de beeg lunge wid you, — Brissette, — Brissette, — Brissette — ’ I get most big tired, me.

---

## FOREST, LAKE, AND RIVER

---

“Las’ week I go on de store, and ministaire and school-mastaire come on de store and spik it wid me.

“‘Brissette, we go for lunge to-morrer, and we want your boat. You mus’ come for row in de boat, and we pay you une piastre l’argent blanc.’

“I want one dollaire ver bad, me, and I say, ‘Brissette will go wit’ de gentlemans.’ Den dey mak’ it one big laf, and say, ‘Mercier, mercier, Brissette, we come on your house to-morrer pooty soon. We come on de boat place when de bell on Ste. Damien say Angelus for noon.’

“‘Here, Brissette, here, Brissette,’ say ministaire, ‘feex my hook wid de bait you catch big mister lunge wid.’ I no lak dat, — I go for row on de boat, me.

“But I catch him jomp, jomp, — frog, you call him, s’pose, and mak’ him frien’ wid de hook, for mak’ him acquaint wid de lunge, plobily,” — this with a sarcastic smile.

“We go on feesh. I mak’ boat go one side revière firs’, den oder side, easy lak. Ministaire he laf, school-mastaire he laf some more. Ministaire say, ‘Brissette, haf some lemonade wit’ us.’ Bah gosh! so good lemonade nevaire was! Den dey mak’ it some more laf, and say, ‘Brissette,



---

## A DAY WITH MASCALONGE

---

you get us lunge, we give you anoder dollaire, — you get us bigges' one as come from revière dis summer, we gif you two.' Bah gosh! I tinks I am sorrer, me, for not feex him hook right for catch big fellaire! Lunge no fool to jump at leetly grenouille.

“We go tree mile, — four mile on de revière — five mile to the Sault Coture, — rapides, you call him, hein? — and den turn boat roun' and come back. We mak' drink some more lemonade, — plenty, plenty, — ‘À votre santé, Messieurs,’ I say; — but de lunge he don't seem for want acquaint wit' frog or wit' de lemonade.

“We come on one mile below deep hole, plobbily, and school-mastaire, he say, ‘Brissette, hif we gat no lunge to-day, you come again wit' us some day, hein?’ Bah gosh! Brissette he no lak dat. He mak' it some tink, — den he say, ‘S'pose you go again some tam, s'pose I go wit' you.’

“Bah gosh! I tink I feex it dey stay at home next tam 'fore dey go wid me for sure. We come 'round de bend below de beeg stone lak one duck swim on de wataire, and I tink I feex it wit' dem now. I row de boat upon side de big stone, — pardonez-moi, mon Dieu, — and flop! dosh! we all go on wataire in deep hole!

“De ministaire he say, lak steam whistle blow,

---

## FOREST, LAKE, AND RIVER

---

‘Save me! save me!’ — and de school-mastaire, he call, ‘Brissette, Brissette, I no swim, come help!’

“I go for jomp in revière to get oar and swim to school-mastaire. He grab hold, and I swim wid him to ministaire. He just come up from bottom, and he blow water out his mouf like jet d’eau. He strike his hands out and catch oar, and I pull bofe on de land. Aha! — ha! — ha! ha!

“Le docteur pass him on de road not ver’ far, and hears hollers — so beeg he come on de place to see what is de mattaire. He mak’ laf, and say, ‘Brissette, you catch de two bigges’ lunge you ever got before,’ and de boys in de village say to ministaire and school-mastaire, ‘Brissette’s lunge, Brissette’s lunge, hein!’ They for cure feesh wit’ Brissette, ha! ha! ha!”

“Oh! Brissete, you old rascal! How could you do it? And is this the dose you are preparing for me?”

“Non, non! certainment, — de rain he stop soon, — de sun hide in cloud, — we get big lunge, but nevaire wid dem jewelry tings.”

“Very well, Brissette, I will adopt your method. You rig up a bait your way, and on our way back I will do just as you direct; but I don’t want you to practise any of your funny business on me at the deep hole.”

---

## A DAY WITH MASCALONGE

---

“You be sure, no! Rain look mos’ gon’ by. I go on de brook for ten — fifteen minutes, — den you come on de boat.”

The time had passed, the rain had ceased, the air was refreshed and agreeably tempered. Meeting at the boat by appointment, Brissette exhibited a “chub” at least ten inches long, which he had caught in the brook, and which he said was to be my bait.

“Great Scott, Brissette! — you don’t mean it! Why, that fish is almost large enough to carry home to stuff and bake! It will frighten any lunge out of his wits!”

“You for do my way, hein? Well, Brissette acquaint wid dese lunge, and he know what he lak pour manger for him supper.”

While engaged in this conversation Brissette was mounting the “chub.” He peeled and sharpened a small sapling, with which he made a perforation from the head along the backbone to the rear of the dorsal fin. Through this he passed a copper wire which he made thoroughly secure to a hook large enough and strong enough to hold a shark. He then withdrew the copper wire until the shank of the hook was drawn into the opening made by the sapling, and so concealed in the body of the fish. He next passed the point

---

## FOREST, LAKE, AND RIVER

---

of the hook through the body, midway between the dorsal fin and tail, to which he imparted a twist or bend which would cause the "chub" to revolve when drawn through the water. He then passed the free end of the wire twice through the lips, effectually closing the mouth, so the bait would move through the water easily without injury, and finally he connected it with the chain of swivels attached to the end of the line.

He cast the line, thus prepared, several times into the water, and drew it toward himself to see if the bait revolved properly while being drawn in the water. Everything being satisfactory, Brissette said,

"We now go for beeg lunge; we get him for sure."

"Well, I am glad your courage is good, Brissette. But I can never get that big line of yours upon my reel. What shall I do?"

"Hol' heem in your han's, — when big lunge eat him and run, let him go, — pull heem in, — let heem go some more, — he get ver' tired."

"Yes, but how do you do when alone? You can't hold the line and row at the same time."

"Hol' line in mout'. When lunge come, stop row, tak' hol' on line."

---

## *A DAY WITH MASCALONGE*

---

Well, diplomacy, persuasion, and importunity were brought to bear, and after the strongest assurance of its strength and reliability, and that I would be neither displeased nor disappointed if I hooked and then lost the largest mascalonge through the breaking or failure of my tackle, or my own inability to effectually handle and conquer this mighty pirate of the fresh waters, he at last reluctantly consented to its use.

With this concession and understanding, we set out upon our return trip. Obeying the instructions of Brissette, I paid out only twenty-five or thirty yards of line. We carefully skirted the lily-pads, gave special attention to the deep pools where the water had cut away the banks of the river, and the darksome reaches of water beneath the overhanging growth of water-brush and other foliage.

Mile upon mile we slowly covered, with expectation constantly keyed up to intensest pitch, but all to no purpose. We came in sight of the wide and deep pool at the place of our departure, near the end of the rapids, without any attack upon our leviathan bait.

Brissette's volubility had ceased some time since, and anxiety was depicted upon his countenance.

We were gently sweeping around the upper side of the pool, when I ventured to say,

---

## FOREST, LAKE, AND RIVER

---

“ Well, Brissette, it begins to look very doubtful if your prediction will be fulfilled to-day. The big lunge does n't seem to want to make a call upon the big ch—

“ Hold on, Brissette!—hold on!—we've struck a snag!” WHIZ—IZZ—IZZ—ZZ—Z goes the reel, the fight is on, and we are launched at once into the storm-centre of exciting sport.

The fish threw his weight upon the rod, and it yielded to the strain in graceful ellipse. Away he goes down stream, pulling the boat after him as if it was drawn by a stout pony. The strain is too great, and he hurls himself defiantly out of the water, the embodiment of untamed fury and piscatorial ferocity.

“ Mon Dieu! mon Dieu! but he is de bigges' fader of dem all! Nex' tam he come, he eat up your leetly string and feedle-steek, and laf at Yankee man from Stait. Brissette mek him cool off, and go 'long home wid him for sure.”

“ Just wait a little, Brissette, and see what the Yankee man and his fiddle-stick will do. He'll cool him off all right.”

Down to the bottom he goes and sulks. A few very gentle turns of the reel, and, like a flash, out again comes the tiger of the waters, shaking his head to free himself from the cruel barb; but the

---

## *A DAY WITH MASCALONGE*

---

multiplying reel and the resiliency of the split bamboo rod, give him no slack line, and consequently no chance to escape.

“Sapristi! — but I nevaire see like dat before, me! One leetly feedle-string and one leetly feedle-steek mek hold mos’ bigges’ lunge as ever was.”

“Oh! I’ll show you before I get through what the little fiddle-string and little fiddle-stick will do.”

Meanwhile his royal majesty made another drive away from the boat, with great speed and power. To the resistance of the drag on the reel I added the pressure of my thumb upon the line; but he never ceased in his flight until he had taken out some eighty yards of line. He then started for a circuit of the pool, which I endeavored to check by giving him the butt of the rod, and by reeling in whenever for a moment he desisted from pulling and tugging.

Twice during the circuit he essayed the aerial act, but with less impetuosity and violence. It was easy to see that the severe strain of the rod was telling upon his strength. He turned about and made another wild rush, as if to pass underneath the boat; but reeling in quickly, and putting pressure on the rod, I frustrated his plan, and prevented the line from getting entangled with the

---

## FOREST, LAKE, AND RIVER

---

oars, as would otherwise probably have been the case.

This seemed to touch his angry spot anew, and again he essayed to leap out of the water, as his only hope of escape; but he was now so exhausted that he was unable to force himself out of the water, and only his head and back showed above the surface.

Alas, good fighter! Alas, mighty warrior! All danger is now past, and it is only a question of patience, care, and time before your royal sway is at an end.

The fight was fast and furious, permitting of no conversation or idle banter. Brissette, while carefully managing the boat, did not for an instant cease to regard the, to him, unequal contest with an intensity of interest bordering upon enthusiasm and excitement.

“Ah! Brissette,” I ventured at last, “see, the big fellow is getting tired. Now, what do you think of the fiddle-string and fiddle-stick?”

“Bah gosh! feedle-string and feedle-steek all right, when Yankee man play de feedle, bah gosh! I nevaire see like dat, me!”

This by way of compliment and praise, for your Frenchman is nothing if not polite and complimentary.



---

## *A DAY WITH MASCALONGE*

---

“Thank you, Brissette ; but we have n’t got him into the boat, and he may give us trouble yet.”

“For sure our lunge. I jomp in wataire, and pull him on shore, like ministaire and school-mastaire, ha ! ha !”

“Well, not just now, Brissette. He is cooling down all right, and when all the fight is out of him, I will lead him around to you when you can slip your thumb and fingers into his gills, and lift him into the boat.”

Ten minutes more passed away, and the fierce fighter is subdued, and the struggle is at an end. He is now content to be led about as gently as a fingerling. The line is reeled in, and, as he nears the gunwale, the hand of Brissette has laid firm hold in the gills, and soon the monster is writhing on the bottom of the boat. A merciful blow at the base of the skull ends the struggle, and Brissette pulled for the shore.

Congratulations are next in order, and libations, of funny-guggle water, with many à votre santé.

As the shadows of evening gather, a proud procession moved through the village street to the surprise and wonderment of passers-by, who were generous with congratulations and praise.

At last the village store was reached, where the

---

## *FOREST, LAKE, AND RIVER*

---

scales registered twenty-eight and one-quarter pounds as the weight of our prize. I returned to my home with pleasant recollections, well content to have spent the day upon Pike River with old Brissette.



## *THE MASCALONGE*

---

HE mascalonge, or maskinonge, the name which in the Indian tongue signified "big fish," is a giant member of the family of pikes (*Lucius masquinongy*), is found principally in the fresh waters of Canada and in many of the great lakes of America, and, when properly sought for, is one of the most game of fresh-water fish. Varying in size from four or five to sixty pounds, and in length from that of the common pickerel to six feet, he is the fiercest scavenger of fresh water, taking any bait or food that he may come across. His movements through the water are very rapid. He is long and narrow, like the pike family, black on top and silver-white underneath, with a powerful tail and two large fins, one above and one below, near the extreme rear of the body, just forward of the tail. A similar ventral fin and two just beneath the gills complete his motive power.

In the early spring he is found nearer the shores of the waters which he inhabits than in the warmer weather, when he returns to the cooler,

---

## FOREST, LAKE, AND RIVER

---

deeper water. Fishermen are accustomed to attempt to catch him in the St. Lawrence River and its tributaries, and in many of the Canadian lakes, by trolling for him with a spoon and about fifty yards of line at the stern of a moving boat, usually in the current of the rivers or the deeper parts of the lake, and they generally attach a live frog to one of the hooks of the trolling-spoon. When the fish is hooked, the first object of the oarsman is to keep him from darting under the boat, and thereby, perhaps, breaking the line; while the fisherman uses every effort to keep the line taut, and at the same time give him plenty when he makes a sudden burst, as he frequently does. The average fish, of a weight of fifteen to twenty pounds, will keep an able-bodied man hard at work for a half hour before he is successfully landed; and as he becomes exhausted, and is drawn nearer to the boat, it is usually necessary to hit him on the head with the boat hook before he can be drawn aboard. This, however, is a crude way of catching him.

To fully enjoy the sport of landing one of the gamest fish in America, the angler should take an ordinary salmon rod, and attach thereto a large multiplying reel containing from one hundred and fifty to three hundred yards of salmon line, and a small silver trolling-spoon to one of the hooks of

---

## THE MASCALONGE

---

which may be fastened a green frog by the nose. This is generally held well in the stern of the boat, which is being rowed at about two to three miles an hour. Pay out twenty yards of the line, and, with your finger on the reel, troll slowly down the deeper part of the river or lake. When the fish first bites, there is very little action ; he seems to take the bait as a surprise, and, for a moment or two, follows peacefully in the wake of the boat, at which time a sudden jerk will fasten the hooks firmly in his jaws. Then be prepared for his first rush, which, if he be a good-sized fish, will be sudden and very trying to the nerves of a novice.

Before he stops, he may take away a hundred yards of your line, when he will suddenly turn and double himself, making for the boat with all the speed he formerly employed in getting away from it. Here the skill of the oarsman comes in. The moment the line is seen to be approaching the boat, and while the fisherman keeps it as taut as possible by reeling the slack up rapidly, the oarsman should row away from the fish as fast as he can, taking care not to get into shallow water, or near any sunken logs, trees, or driftwood, as one of the favorite efforts of the fish is to get the line wound up in the branches of some drifting tree, or something at the bottom of the water.

---

## FOREST, LAKE, AND RIVER

---

Soon the fish will take another turn, and be off, as rapidly as before, in a new direction. And the man with the rod will be kept busy with his sudden movements for from one to two hours. Even as he is brought near to the boat, you cannot trust him; he will suddenly develop new energy, and be off again when you least expect it. As he is slowly reeled in to the gunwale, have a gaff ready, and give him a smart blow just over the eyes, to stun him, and with the gaff pull him aboard before he can come to. If he is not well stunned, he will soon revive and grab the thwarts or side with his jaws, which, as they are powerful and firm, with long sharp teeth, will do much damage in a short time; and his strong tail is better avoided, if you do not want to get a nasty blow.

Catching a single mascalonge of good size in a morning, is sport enough for almost any one, and the satisfaction of having landed him safely will be tempered by the lameness of your arms and the inclination to get safely back to shore and settle down for the rest of the day.

He is a fine-looking fellow when landed, and, properly cooked (baking is the favorite method), is a dish worthy of an epicure, provided you do not keep him too long after he is out of the water. When the fisherman once undertakes to catch him

---

## *THE MASCALONGE*

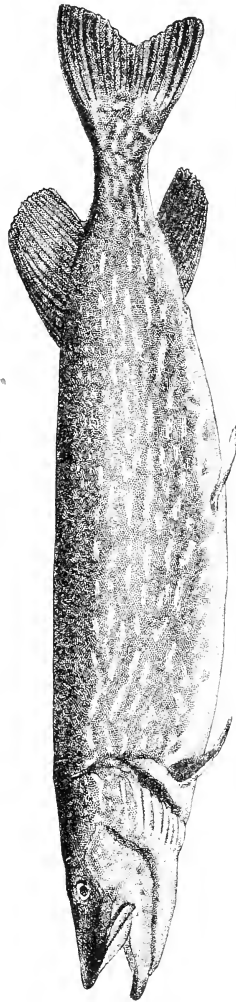
---

in this way, he will no longer troll for him, but will give himself up to a fine morning's sport by trying to land him with a rod ; and under these circumstances, there is no better fishing in American waters.

The best time to catch him is between the first of June and the first of August ; but in many northern waters, except in deep waters, he can be caught at any time when there is no ice. During the winter, he is popularly supposed to bury himself in the mud, and I suppose is not taken at that time of year. To one who loves fishing, a visit to any of the waters where he can be caught will be more than repaid by the pleasure of landing one of these fish.

THE PIKE. *Lucioperca*







## *THE PIKE*

---

N America, the pike is abundant over the whole northern part of the continent, as far south as Ohio, excepting upon the Pacific slope. Its anatomy is dealt with in another part of this work. It grows to an enormous size, though there are no records of such large fish belonging to this family in America, as they have in Europe. Many of the Old World pike stories have an apocryphal air about them; while, on the other hand, there is no doubt that some of the largest pike taken out of American waters have passed for maskinongé. Yet marvellous are the stories that are told of the pike which go about, like roaming water-wolves, seeking what they may devour, both in the St. Lawrence and also in the depths of Lake St. John and its tributary streams, as well as in the large lakes lying away towards and beyond the Height of Land. Many of them far exceed in weight the generally accepted limit of size of the ordinary *Esox lucius*, and I have frequently been told, in consequence, that I was wrong in my identification and nomen-

---

## FOREST, LAKE, AND RIVER

---

clature of the species, and that these long and wide-jawed monsters of twenty, thirty, and even forty pounds in weight were not the ordinary pike at all, — the pickerel of many American anglers, — but the maskinongé, or *Esox nobilior*, otherwise known as the *Lucius masquinongy*. It is a simple matter, of course, to satisfy one's self by observing the scaling of the cheek and gill-covers, and the number of branchiostegal rays, as to the identification of the maskinongé and of the true pike, or great northern pickerel, and this, without reference to the coloration or markings of the body of the fishes. But many of those who have not taken the trouble, or have not had the advantage of carefully examining them, are sceptical on the subject, because of the immense size to which *Esox lucius* attains in northern Quebec. When specimens of the fish, or even good photographs of them, can be obtained, it is quite easy for even the most casual observer to distinguish between the elongated form of the light-colored markings of the side, and the smaller, darker, and rounder spots of the maskinongé. I have seen a forty-nine-pound pike which was taken by Mr. William Hayes, of London, in Lac Tschotagama, in 1890, and one of thirty-five pounds which was brought to Quebec from the Peribonca River by Colonel

---

## THE PIKE

---

B. A. Scott, in 1892. Mr. E. J. Myers, of New York, claims a forty-seven-pound pike, taken by him in Lac Tschotagama, in July, 1891, and I have seen one of at least five feet in length, hooked in the Peribonca. To so large a size have these fish attained in Lake St. John, and so voracious are they known to be, that many of the settlers about its shores are too frightened of them to venture to bathe in its waters. Both dogs and water-fowl swimming upon its surface have been attacked by these fresh-water sharks. In company with the late A. N. Cheney, I trolled with a spoon, one day, in this lake for pike. We killed them up to fourteen pounds in weight, on our trout rods.

In England, the pike is supposed to have been an introduced fish; for, some few centuries ago, it was quite rare in that country, so much so that Edward the First, who fixed the price of the different kinds of fish, so that his subjects might not be left at the mercy of the dealers, placed the value of pike higher than that of salmon, and more than ten times as much as that of cod.

Pliny considered the pike to be the largest and longest-lived of all fresh-water fish. Gesner relates that, in the year 1497, one was taken at Hali-brun in Suabia with a brazen ring attached to it,

---

## FOREST, LAKE, AND RIVER

---

on which were these words in Greek characters: "I am the fish which was first of all put into this lake by the hands of the Governor of the Universe, Frederic the Second, the 5th of October, 1230." If there was any truth in the alleged engraved legend, the fish was at least two hundred and sixty-seven years old, and is said to have weighed three hundred and fifty pounds. The skeleton was long preserved at Manheim, as a great curiosity in natural history. One story states that it measured nineteen feet long. On the other hand, there is a report that several vertebræ were added to the skeleton from time to time.

There are undoubted records of pike of twenty-eight to thirty-four pounds having been taken in Horsea Mere, near Norfolk; while Scotch lakes have produced them up to fifty-five pounds, and some of the Irish lakes are said to have yielded them up to seventy pounds. Mr. Alfred Jardine has a record of a thirty-seven-pound pike in Buckinghamshire.

The pike is undoubtedly the most voracious of fresh-water fishes, and while his shape is admirably adapted for piercing his way through the weed beds and rushes where he lies in wait for his prey, the color of his back and sides, green with yellow markings, harmonizes with his surroundings, and

---

## THE PIKE

---

no doubt serves to conceal him, to a considerable extent, from the small fish upon which he feeds. Mr. John Bickerdyke notes the interesting fact that the small teeth with which the roof of his mouth literally bristles, are hinged to work one way only, yielding to the passage of food in its way down its capacious throat, but readily opposing exit therefrom.

The sport of pike fishing is very much more prized and indulged in on the other side of the Atlantic than it is in America, where there are such constant opportunities for angling for the fish that are the most eagerly sought by rodsmen. Yet the sport afforded by pike fishing in American waters is by no means to be despised. Mr. Shields deservedly gives the great northern pickerel an honored place in his "American Game Fishes;" and though Mr. Robert B. Roosevelt declares that it is "utterly worthless either for sport or the table," he accords it a chapter among "The Game Fish of the North." Mr. W. David Tomlin, in his monograph of the fish, says: "He is a foe-man worthy the steel of the most ardent angler. Some anglers call the family 'snakes.' I pity them! Go where pike can be found, fish for them with legitimate tackle, and give them a fair chance, and they will give just as much pleasure

---

## FOREST, LAKE, AND RIVER

---

as any royal small-mouthed bass that ever swam." I am too loyal a lover of our North country salmonoids, as represented by the salmon, ouananiche, and trout, to go to Mr. Tomlin's length in praise of pike-fishing, but the courage, resistance, and strength of *Esox lucius* claim my respect, and when finer fish are beyond my reach, I find plenty of sport in matching my light tackle against his strength and avoirdupois, my ingenuity against his determined struggles, and my chances of a sufficient hook-hold, no lower down than his throat, against the scarcity of flesh in his skinny, bony mouth.

The rapacity of the pike is well known, and affords the opportunity for the employment by anglers of a large variety of baits. It is a fresh-water shark, a water wolf, and one writer has termed it a mere machine for the assimilation of animal matter. But it by no means confines itself to an animal diet. Mr. H. Cholmondeley Pennell cites as a proof of the omnivorous instinct of this fish, that watches, spoons, and rings have frequently been taken from its craw; while several authors have asserted that it also feeds upon the pickerel weed, — a common species of aquatic plant. No animal, fish, or bird life is safe within its reach, if the living thing can by any possible means be forced



---

## THE PIKE

---

down its capacious throat. All kinds of fishes, even those of its own species, so long as they are not more than half its own size, become its prey. It also devours frogs, mice, rats, and even young ducks. Any of these small animals, or their artificial counterfeits, make good baits for the pike. The spoon and the phantom minnow are excellent trolls. Live minnows, shiners, and gudgeon, and the small of all the varieties of chub and whitefish are good killers in the hands of anglers. The dead bait is used for spinning or for trolling with the paternoster, which is a very deadly method of pike-fishing. The greatest success will usually be met with by fishing among lily pads, or by skirting the margin of beds of reeds and rushes. In the shade of these, the pike usually remain to watch out for their prey.

Writers on pike-fishing differ very widely in the advice they tender about striking the fish. Most of the old authors, and many of the modern ones too, recommend a wait of five minutes or so after a pike seizes the bait, before striking. This is in order to permit the fish to gorge the bait. Then, when the hook is fast in the entrails of the pike, there is not much trick about saving it. It is simply a matter of main strength and the endurance of the line. It is much more sportsmanlike

---

## *FOREST, LAKE, AND RIVER*

---

to fish with the bait upon a flight of hooks arranged to give a spinning motion to it, where the hooks are intended to take hold of the fish before he swallows it, and where the strike is made as soon as a fish is felt, and the chance of a kill depends largely upon the hold that the hooks may have and retain upon the bony interior of the pike's mouth.

Many anglers must have suffered great inconvenience from the occasional tendency of their spinning tackle to kink or twist, despite their use of proper swivels. I have found that a certain cure for this trouble consists in removing the sinker from the line itself, and arranging it upon a short auxiliary line, fastened to the main line by both ends, so that the lead hangs horizontally beneath it. This should be done immediately above the swivel, and the difficulty will be found to have disappeared.

When the pike has been landed or taken into the boat, the angler, if he be wise, will not put his hand into the mouth of the fish to extract the hook, until the pike has been well and truly killed. His teeth are sharp and venomous, and he will endeavor to use them upon his enemies, as long as he has life.

Instances are on record of pike having been taken by a fly. Some years ago, a gentleman who

---

## THE PIKE

---

was fishing the Ithon, in Radnorshire, for salmon, had his fly, a large brown-winged one, with a gold-twist body, tied upon a number one hook, taken by a pike, which was hooked and killed, and weighed eight pounds. Thomas Boosey, the angling author, reports that a friend of his caught a pike with an artificial fly at Boxmore, in Hertfordshire. Stoddart, a most respectable authority, says in his "Scottish Angler," that though not much in use, angling with the fly for pike is most deadly in some waters, and is practised in the lochs of Scotland. "The pike fly," he says, "should be large and gaudy, fabricated of divers feathers and tinsels, to resemble the kingfisher or large dragon-fly. Use it in a strong, warm wind, upon water from six to two feet deep, and near the weeds." Natural flies are too inconsiderable trifles for the pike to trouble himself about, and there is therefore no doubt that he takes the artificial flies offered him for something more substantial. Mr. John Bickerdyke says that the pike-fly is no fly at all, but a fancy bait made with bright feathers, which the pike probably mistakes for a young bird. It can be cast, or trailed, in exactly the same manner as a spinning bait, but need not spin. In very shallow, weedy meres it is sometimes worked near the surface, but it is a

---

## FOREST, LAKE, AND RIVER

---

very clumsy bait for casting, even with a powerful salmon rod. One of the most successful flies in Ireland is made of the end of a brown calf's tail, and is not a bad imitation of a water rat, for which, no doubt, the pike take it.

In "The Angler-Naturalist," Mr. H. Cholmondeley Pennell relates several instances of persons who were bathing, having been attacked by hungry pike, and declares that accounts are on record of otters, dogs, mules, oxen, and even horses being similarly attacked. He also tells the story of a heavy pike captured on a night line which had to be opened to get at the hook. The latter was found to be imbedded in a smaller, but still large pike, which had been swallowed by the other. This, too, was opened, when a third, and still smaller one, the original taker of the bait, was discovered, already partially digested in the stomach of the second.

Sometimes, in parts of England, a line to which a bait for pike has been attached, is fastened to the wings of a goose, and when a large fish swallows the lure as the goose swims over the water, an amusing duel occurs, in which, however, the pike is worsted, unless it succeeds in getting away.

When taken out of cold water, and stuffed and baked, the flesh of the pike is not to be despised,

---

## THE PIKE

---

Walton, in fact, having described it as “too good for any but anglers and very honest men.”

In an anonymous work of 1634, entitled “A Strange Metamorphosis of Man,” occurs the following description of the pike:—

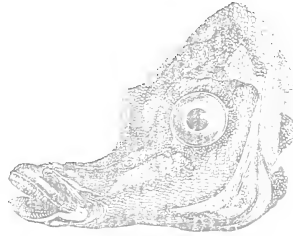
“The Pike is the Pirate of the Lake, that roves and preyes upon the little fishermen of that Sea, who is so covetous and cruell, that he gives no quarter to any; when he takes his prize hee goes not to the shore to make his market, but greedily devoures it himself; yea, is such a Cormorant, that he will not stay the dressing of it. He is called the Wolfe of the water, but is indeed a monster of Nature; for the Wolfe spares his kind, but hee will devoure his own Nephewes ere they come to full growth. He is very gallant in Apparell, and seemes to affect to go rather in silver than in gold, wherein he spares for no cost, for his Habit is all layd with silver plate downe to the foot in scollop wise. Hee is a right Man of Warre, and is so slender built, and draws so little Water, as hee will land at pleasure, and take his prey where he list; no Shallop shall follow where he will lead. The Pikes themselves are the taller Ships, the Pickerels of a middle sort, and the Jacks the Pinnaces amongst them, which are all armed according to their burden. The master or pilot sits at the prore, yet hath he the rudder so at command, that he can winde and turn the Vessell which way he will in the twinkling of an eye. He sets but up little Sayles, because he would not be discovered who he is, yea, many times no Sail at all, but he trusts to the

---

## FOREST, LAKE, AND RIVER

---

Finnes, his Oares. The youthfuller sort of Pikes, whom through familiarity they call Jacks, are notable Laddes indeed, and to their strength and bigness will fish as their Fathers will. In a word, a Man would easily bee mistaken in him so handsome and gentle a Creature, and never imagin him to be half so ravenous as he is ; but *Fronti nulla Fides.*”





T  
H  
E  
P  
I  
K  
E

*LIKE a green spear for sudden sting  
Thou seemest; but 't is easy seen,  
Thy color is the only thing  
About thee which is green.*

*For thou art cunning as a fiend:  
Thou lov'st to lie in places dark,  
By tangled roots of lilies screened —  
Then flash out like a spark.*

*All feebler creatures wandering nigh  
Find thee in manners ruthless — rude:  
Under the watery canopy  
All life to thee means food.*

*When from thy shrewdly chosen nook  
Thou launchest forward at a prey,  
Like spear or arrow, thou dost look —  
A Weapon made to slay!*

*Like to a wolf's thy teeth are sharp  
And very like a shark's thy ways;  
So ne'er hath poet strung his harp  
To crown thy deeds with praise.*



---

## FOREST, LAKE, AND RIVER

---

*Even the stoutest bull-frog wakes  
And quakes, if he but dreams thee near ;  
And oft, when safe, his big voice takes  
A tremolo of fear.*

*O cunning, cruel, greedy Pike  
A-lurk in mud or reedy den,  
Thine ugliest trait is — thou art like  
So many, many men !*

*The burly bass, though game, and good  
In a free fight, distrusts thy ways ;  
And in thy murderous neighborhood  
By preference never stays.*



## *THE PICKEREL*

---

MONG the first fish sought after by lads beginning to learn the pleasures of angling, are the common pickerel of the many lakes and ponds that are to be found well distributed over New England.

A factor at this stage of existence that counts greatly, is that of finances, for I feel sure in the recollection that the long bamboo pole, the line and hooks, were inexpensive in comparison with the more delicate tackle that became ours when money was, perhaps, more plentiful.

Saturday was a favorite fishing day, as the tedious hours of school life were shortened, and, on holidays, plenty of time was ours to seek the ponds at a distance. Some sort of a skiff could generally be hired for a small sum after we had arranged to have our horse and trap taken care of. The skiff was, as a rule, a leaky affair, but this pleasing characteristic was always made light of.

For bait, a spoon, a frog's leg, or a bunch of worms were used. Among the lily pads or the

---

## FOREST, LAKE, AND RIVER

---

grasses were the favorite spots chosen to try our luck. The baits were skipped about until a rush was made and a fish struck.

In the absence of a reel, the contest was apt to degenerate into a test of strength, 'twixt line and fish, yet at the same time a certain amount of skill was necessary to guide, hold, and tire this strong, rushing, plunging, rebellious foe.

Exciting, indeed, it was, and the day quickly passed when the bites and strikes were frequent.

At times, I remember, a piece of red flannel and a strip of white cloth were sufficient to entice some big chap into supposing it was a dainty morsel.

Later in life, when discarded were these uncouth and cumbersome appliances, on a dainty trolling spoon, the line partially sunken by a small lead, these fish struck well and made a strong and good struggle before they were captured. I have often taken them in some of the larger lakes while trying for bass, and as my rod was then a light one, I found a large pickerel was full of gamy resistance, and that it was fairly difficult to land him with success. One moment these fish are lying quietly without apparent motion, the next they dart forth like an arrow at some prey, or a bait that may seem to suit their fancy.

---

## THE PICKEREL

---

Once struck, they expend their strength in darting hither and thither, but if line is allowed and their rushes stopped ere long, it means that they must be guided in right directions and that no slack is to be allowed, for they are clever in twisting up the line and breaking it.

They are ravenous feeders, taking all sorts of lures, but one that is bright and shiny is apt to prove the most effective. Ferocious in its attacks upon its prey, the voracious pickerel, as a rule, prefers quiet and slow flowing waters. He and his family are the wolves of fresh water. Guarded from observation in his seclusion, he follows with his eye the fish that wander near, the ducklings paddling among the weeds, or even a water rat swimming toward his home. Then as he selects his victim he rushes forth, and rarely misses. There is a sudden commotion, circle upon circle form on the surface, subside, and all is still again.

The pickerel is yellowish green in color with a network of interlacing lines of a brown hue. They grow very rapidly in size when food is abundant.

In winter, fishing for pickerel through the ice is a sport that yields keen enjoyment to its votaries. While no great science is required, yet there is plenty of exercise, the skating necessary in attend-

---

## *FOREST, LAKE, AND RIVER*

---

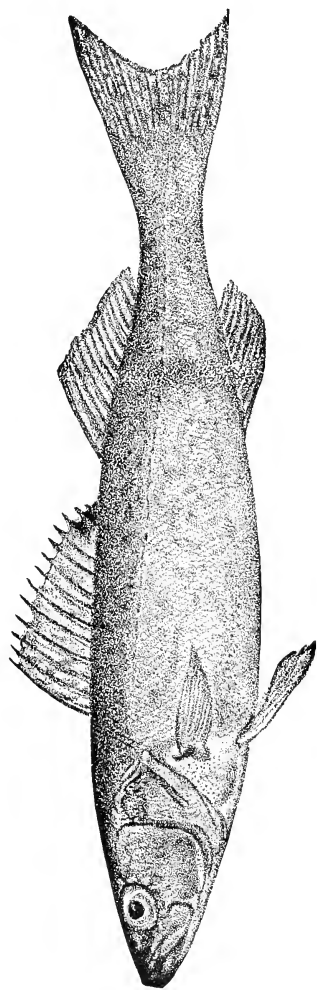
ing to the different holes constituting an additional pleasure. Then, too, at this season, the flesh is sweet and of a good flavor. Many large fish are often taken in this manner through the ice, and they seem to know how to put difficulties in the way of being dragged forth from their abode.

While fishing for pickerel is not a favorite sport, there are many anglers who consider this interesting fish well worth the seeking, and prefer to tempt him in various ways rather than try their luck with fish who will take the fly.

*THE PERCHES*

---

THE SOUTHERN STATES *and* ALABAMA







## THE PERCHES

---

THE perch family consists of many species, about one hundred and twenty, and includes numerous minnows, mainly those commonly called "darters," little fellows which are distributed widely in the waters of this continent, but only five or six forms are indigenous to New England and Canada. Of the larger perches, we find in our home waters only the pike-perches (two species) and the yellow perch (one species). The fish popularly called the white perch is relegated to a different family — the sea basses (*Serranidæ*) — by ichthic authority, and as such will be treated on subsequent pages.

The pike-perch is generally called the wall-eyed pike in the East, and simply pike in many of the Western States, where the true pike is known as the pickerel. Glass-eye is also another Eastern name for it, and in many sections it bears the local nomenclature of yellow pike, blue pike, jack salmon, and white-eye; in Canada it is known as the dory or doré (because of its golden hue). The scientific name of *Stizostedion vitreum* completes

---

## FOREST, LAKE, AND RIVER

---

its baptismal records, the generic name being from two Greek words signifying "to prick" and "little breast," the synonymy of which is rather confusing; *vitreum*, the specific title, is from *vitreus*, "glassy," in reference to the eye of the fish. Its coloration is usually dark olive, mottled with brassy touches which form indistinct oblique lines; a pinkish hue appears on the belly and lower fins; faint vermiculations or worm-like markings may be seen on the sides of the head, and on the front part of the first fin on the back, a jet-black blotch is always present, otherwise this fin is nearly plain.

The wall-eyed pike is found in the Great Lake region eastward to Vermont, and is very numerous and of large size in the lakes of the Provinces of Quebec and Ontario, Canada. It is generally abundant and much valued as a food fish, those of about half a pound in weight making a delicious edible for the breakfast-table. It is called pike-perch from the pike-like formation of its head, and anglers generally consider it as belonging to the pike family, but a glance at the fins on the back, which in shape and number are similar to those of the true perch, will at once indicate its proper classification. It reaches a weight of thirty pounds, and in fluvial waters, and, doubtless, in lacustrine under proper conditions, it will take the artificial

---

## THE PERCHES

---

fly with avidity, and fight hard. In the upper waters of the Susquehanna River, the resident anglers, as a rule, catch them with feathered lures, of which the "turkey fly" seem to be the most alluring. The fish, however, will take natural baits of any description, provided they are fresh.

The author is indebted to Mr. E. D. T. Chambers, of Quebec, for the following very interesting notes on the pike-perch :

Ever since I took my first doré with fly tackle, now some years ago, I have wondered more and more at the comparatively small amount of attention paid to this splendid game fish by anglers. In default of salmon, trout, bass, and maskinonge, the sport supplied by the pike-perch, at all events in cold northern waters, is by no means to be despised. The experience of taking this fish on the fly is one that hundreds of fly fishermen in America have yet to enjoy. I had fished most of the more accessible waters of the Lake St. John country for several years, before dreaming of catching *Stizostedion vitreum*, in this manner, when, in the summer of 1896, I happened to be whipping beautiful Lac des Aigles for trout. This pretty body of water, which very few white men have ever visited, is many miles north of Lake St. John, into which

---

## FOREST, LAKE, AND RIVER

---

its surplus waters are drained by the Peribonca, which, in turn, receives them from the River des Aigles. My tail fly was taken with a splash that seemed to betoken heavy trout at the end of the line. After offering very fair resistance, a two-pound pike-perch was brought to net. It was not what I was fishing for, but its delicious white meat afforded a very pleasant change from the rich red flesh of the brook trout, upon which our party had been mainly subsisting for a week before. After that Colonel Haggard, D. S. O., who was my angling and canoeing companion, caught several of these fish on his fly tackle, and, in his description of it in the "Encyclopedia of Sport," pays ready tribute to its game qualities.

Some of the doré taken by us in Lac des Aigles weighed over six pounds. They attain a much greater weight, however, sometimes exceeding twenty-five pounds in Canada. Dr. Bull is said to have taken one in the Kentucky River which weighed fifty pounds, and Dr. D. C. Estes caught one of forty pounds in Lake Pepin. They have been taken out of Lake Kiskissink, on the line of the Lake St. John Railway, over sixteen pounds each.

It is not alone in Northern Canada that this fish takes the fly. A correspondent of the "American Angler" wrote some time ago from Southern Wis-

---

## THE PERCHES

---

consin, that he had fished the streams of that State for many years, without finding any better sport in them than that afforded by the pike-perch. His experience seems to have been very similar to that of anglers who have taken the same fish with the fly in Canadian lakes. In Wisconsin, the doré takes the fly best in the early morning or late at night; but for the matter of that, all other fish do the same. It is also said to prefer a dark fly; but in Canada it seems to rise just as readily to bass as to salmon flies, and it has certainly no objection to the coarse trout flies used for the uneducated *fontinalis* of far northern rivers and lakes. In lakes, the pike-perch is fond of very deep water. It is usually found in rivers, in the rapids at the foot of deep pools. Sometimes, though not usually, the pike-perch breaks water when hooked, and always affords good sport, though offering less resistance than the trout.

Live minnows are a favorite bait for this fish, and when they cannot be obtained, small trout and whitefish offer a good substitute. Very often it is also taken with pieces of pork, or of chub or other large fish. It is often trolled for, just as lake trout or namaycush are, and with similar trolls. Large numbers are taken with the spoon and phantom minnow.

---

## FOREST, LAKE, AND RIVER

---

In the Labrador peninsula, the Indians rely very largely upon the pike-perch for a portion of their food-supply. In winter it is freely taken through the ice by the Montagnais, on set lines. When small fish can be secured for bait, the Indians prepare them by slitting an opening in the back, and inserting a piece of wood to keep the bait straight, and to prevent it from doubling up in the water. The lower part of the casting line, next the hook, is laid with the wood along the slit in the back of the fish, so that the hook just reaches to the mouth of the bait, into which it is laid, with the point towards the tail of the fish. Then the bait is bound around to hold everything together, leaving the line to rise from the middle of its body. So suspended by the centre of its back, the poise of the bait in the water is perfect, and the piece of wood keeps it in shape. The doré seizes the bait by the head, and when the line is drawn up by the fisherman, the hook is in such a position that it cannot fail to catch in the fish. For this style of fishing, which is only justified by the demands of hunger, a very strong line is necessary, for the teeth of the doré are both sharp and strong.

Dr. D. C. Estes has described the method of taking these fish by winter set lines in Lake Pepin

---

## THE PERCHES

---

and neighboring waters, in the State of Minnesota. Holes are cut through the ice over the bars where the pike-perch are known to congregate, from three to ten rods from the shore. The hook is baited with a live minnow. To signify a bite, a very simple device is employed. A piece of lath about two feet long, with a hole in it a little nearer one end than the other, has a cross-bar run loosely through the hole, and placed across the opening in the ice. The line is attached to the short end of the lath. The moment a fish seizes the bait, the end of the lath flies upright, and so remains as long as the fish pulls. It serves as a signal to the fisherman to lift his line and take in the fish. When there are from fifty to one hundred lines out, and the fish are biting freely, it is exciting enough sport to rush from one quivering signal to another, for there are often four to six in the air at the same time. One of the Indian plans of taking these fish in winter was described some time ago by a newspaper in St. Paul. A shanty or tepee is erected over an opening in the ice. A decoy minnow is kept in motion until the fish is enticed into sight, and immediately under the hole, when the deadly spear descends and fastens its barb firmly in the flesh of the victim.

In the regions between Lakes Superior and Win-

---

## FOREST, LAKE, AND RIVER

---

nipeg, the Ojibway Indians plant four or five sticks round the hole in the ice, which they are careful to keep open with their hatchets. A squaw, no matter how cold the day, will throw her blanket over her, hurry to the hole in the ice, cast her blanket over the sticks, crouch beneath it, and begin to fish. In half an hour, she will probably have half a dozen doré or wall-eyed pike.

My late lamented friend, A. N. Montpetit, author of "Les Poissons d'eau douce du Canada," used to tell of a remarkable experience he once had in fishing for pike-perch in a little lake near the River du Milieu, a tributary of the St. Maurice in the Province of Quebec. With only a piece of pork skin upon a blunt hook, he captured a score of fine fish, averaging two pounds each, when finally his bait was carried away. For want of a more suitable lure, he baited his hook with a berry plucked from a neighboring shrub, and to his surprise had another bite and saved the fish. He repeated the experiment several times, with the same result.

The best sport with this fish will be had by the use of ordinary trout tackle, when fly fishing, and of a light trolling rod, when using the spoon or phantom minnow. The rod used for trolling for trout in large lakes is quite heavy enough for troll-



---

## THE PERCHES

---

ing for the pike-perch. The reel should be free in its running, especially when light tackle is used, for the fish often makes quite hurriedly for deep water, when hooked, and its first few rushes must not be too hastily checked, particularly if the fish be of large size. At least fifty feet of line should be used, and in bait fishing the lead must be heavy enough to carry the lure near the bottom of the water, except in rapids, where it may be allowed to float down with the current.

The pike-perch is very much more particular in both its habits and its habitat than the true pike, *Lucius lucius*. The latter is generally found in thick water, with a muddy bottom, and is fond of the neighborhood of weeds and rushes. The pike-perch, on the other hand, is a clean liver, loving the purest water, and deep pools with sandy or gravelly bottoms, in the various lakes in which it is found. In rivers, it is partial to rapids and whirling eddies among the rocks. Though exceedingly voracious, it is not particularly combative, and fights shy of encountering either the pike or the black bass.

The doré is a spring spawner, its season for this operation, in Canada, being about the commencement of April. Its eggs are quite small and of a yellowish tint. It reaches maturity when about a

---

## FOREST, LAKE, AND RIVER

---

pound in weight, and generally lays from two to three hundred thousand eggs. But for this unusual fertility, the fish would soon become extinct, for it is probable that not much more than ten per cent of the eggs are ever hatched, and the young fry meet with innumerable foes in the early stages of their existence. They furnish an excellent food-supply to many of their neighbors, and often to their own parents. The eggs are left uncovered by the female fish, and, though mixed with the sand, are often thrown up in large numbers upon the shores of lakes by stormy weather, while in the water they are the prey of numerous other fishes. In consequence of the enormous natural waste of the ova, the fish culturists are able to assist nature very materially by taking charge of the eggs in their hatcheries.

The flesh of the pike-perch is very highly and very deservedly esteemed, both in America and upon the continent of Europe. It is beautifully white and firm, at least in high latitudes, delicate in flavor, flaky, and easily digested. In the country of the Great Lakes, where it is most abundant, it is valued next to the whitefish and the lake trout as an article of food. Fried in butter or with slices of salt pork, in camp, when freshly caught, it is a very savory morsel. Of course there

---

## THE PERCHES

---

are many different ways of cooking and serving this delicious fish, some of which are scarcely possible in the woods. A doré of one or two pounds is very good, baked. A three or four pound fish should be boiled and served with butter sauce. If five pounds or over, it is excellent, stuffed and garnished with savory herbs.

The late Dr. G. Brown Goode very truly said that wherever the pike-perch is known, it is very highly prized. Throughout the northern parts of Ontario and Quebec, it is very abundant, and it is occasionally met with by salmon fishermen, in their rivers, where it has doubtless found its way down from some inland lake. In the St. Lawrence River, it formerly existed in very large quantities. During late years, its numbers have materially decreased, owing very largely to the immense numbers taken by nets, and to the small meshes of many of these nets, involving the destruction of hundreds of thousands of immature fish. It is really painful to pass through the fish markets in Montreal and Quebec, and see the absurdly small specimens of this beautiful fish offered for sale.

Enormous quantities of them exist in Lake Champlain, but there, too, the seine nets are doing their work of destruction, though efforts are being made by the North American Fish and Game

---

## FOREST, LAKE, AND RIVER

---

Protective Association, and by Commissioner Titcomb, of Vermont, to put an end to it. The people of New York State and of Vermont who live upon the shores of Lake Champlain, realize the fact that the country about the lake is fast becoming a summer resort, and that the summer visitors are a class of people who want to have sport when they go to the country, and are willing to pay well for it. It has been found too that the wall-eyed pike of the lake are excellent game fish, but that they have recently been destroyed in large numbers and that the time has arrived to protect them. Both New York and Vermont have taken action to prevent seine fishing in the lake ; but, unfortunately, a portion of the lake extends into Canada, and in this part of it, in Missisquois Bay, the pike-perch run to spawn. Notwithstanding the protection attempted by the neighboring States, Canadians are still licensed by their Government to seine these fish in the spring of the year, while they are on their way to their spawning beds in the bay. The amount of this destruction is so great that it is stated upon the authority of ex-Governor Fiske, of Vermont, that one hundred barrels of these spawning fish have been shipped from the station of Cambridge in a single day. One man who had a license for netting fish testified that his profit in

---

## THE PERCHES

---

catching and disposing of them amounted to two thousand two hundred dollars in six weeks. It has now been decreed in Vermont, that unless the Province of Quebec stops issuing licenses for seine fishing in Lake Champlain, Vermont will also issue them, and in that case, the inevitable result will be to exhaust the supply of this splendid game and good fish in the waters of Lake Champlain.

A varietal form of the pike-perch called the sauger or sand pike (*Stizostedion canadense*) is found in the Great Lakes, the St. Lawrence waters, and in those of New England. It is represented largely by a sub-species (*Stizostedion canadense griseum*), its subspecific name being from the Latin, *griseus*, "gray," which is more numerous and more widely distributed than the typical sauger, *canadense*. It is a smaller fish and less valued as food than *Stizostedion vitreum*, the patriarch of the tribe, and can be distinguished from the head of the genus by the smoother head-bones and gill-covers, the fewer spines on the latter, and the less complete scaling of the head.

The yellow perch (*Perca flavescens*, "dusky" and "yellowish") is probably caught in greater numbers with hook and line than any other fish of New England waters, in all of which that are suitable for their sustenance, they may be said to be ubiqui-

---

## FOREST, LAKE, AND RIVER

---

tous, and of late years they have grown more and more to be an angler's fish, for they rise freely to the artificial fly, and when taken from cold, clear waters are a delicious pan fish. Its golden yellow sides, and the six to eight broad, dark, shining bars traversing the body, and the red or orange of its lower fins, will serve on sight to distinguish it from the other perches.

The average length of the yellow perch will not exceed ten inches, or half a pound in weight; but they are caught in western waters, particularly near Kalamazoo, Michigan, weighing over two and a half pounds, thus rivalling in bulk its British analogue, which is considered a game fish by English anglers, who pursue it with great assiduity and skill, as specimens in their waters frequently exceed three pounds and, now and then, reach five pounds.

Our American species are widely distributed, being very abundant in the Great Lakes and in coast-wise streams from Nova Scotia to North Carolina.

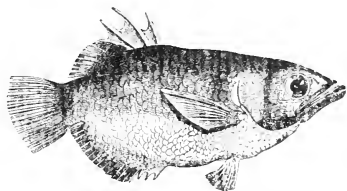
As before stated, the perch-like minnows called darters are numerous represented in the family of perches. Most of them are useful as lures; but one of them is not only among the most active of fresh-water fishes, but grows to the size of eight inches, and yields sprightly sport on a light fly rod, taking the feathers with a snap, and, for its size, com-

---

## THE PERCHES

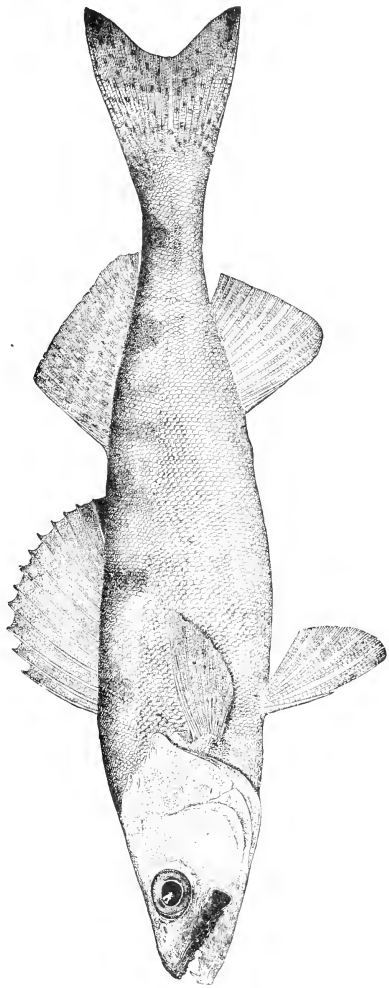
---

pares favorably with the yellow perch and the sunfish in fighting qualities. It is commonly called the log perch or rockfish, but is endowed with other and less euphonious names, such as hog molly and hog fish, which are somewhat of an insult to its panoply of rich green and black, hoglike as may be the shape of its snout. They are very numerous from the Great Lakes to Quebec in swift, gravelly-bottomed streams of some depths, but are never found in small brooks, and may be recognized by the fifteen, slightly more or less, dark transverse bars or bands running from the back to the belly, these usually alternating with fainter ones that reach only to the median line; a black spot is always present at the base of the tail fin, and the other fins are darkly barred. The scientific classification is *Percina caprodes*, *percina* being the diminutive of *perca*, "a perch," and the specific from two Greek words which mean literally, "pig" and "resemblance," which refer to its comparatively long snout.



THE PIKE PERCH. *Stizostedion vitreum*







## THE "WALL-EYE"

*Luckless in thy name, poor fish,  
For beauty rare is thine.  
Pleasing are thy outlines fair,  
Graceful, thy form and fine.  
Tireless, in quick motions — keen  
Amid the rapid's whirl,  
Flashing thy multi-colored charms  
Like sheen of priceless pearl.*

*Restless, as rash truants are,  
Thou, home ties disavow,  
Bold, daring deeds thou lovest well, —  
No timid coward — thou!  
Twilight's fading veil of mist,  
Nor night's black Bat, appal  
Thy spirit's free ubiquity,  
With darkness over all.*

*Wonder shines within thine eyes,  
Where lurks no sign of fright.  
Thy dartings flash from thee a gleam  
Like swallows in their flight.  
The mighty Bass bears company  
In pools below the fall;  
He praises thy audacity,  
Thou boldest of them all!*



## THE WALL-EYED PIKE

---

### OR PIKE-PERCH

---

A NOTED game fish, neglected to some extent by the various writers on fish and fishing, one whose excellent game qualities should attract the attention of all anglers, and whose food-qualities appeal to the epicure, is the pike-perch. In common with nearly all other species of American game fishes, it is forced to exist under a variety of names in different localities, many of which almost bring about a loss of identity. Its scientific name — *Stizostedion vitreum* — should make it immune from a contagion of other appellations. The proper name, pike-perch, which is Latinized into *luciperca*, while used generally by writers, does not seem to secure favor with fishermen. The majority insist upon calling the fish a wall-eyed pike, or more especially a pike. In various parts of the United States, other names employed are wall-eyed pike, yellow pike, blue pike (a variety), gray pike (a variety), glass-eye, green pike, and even salmon.

---

## *FOREST, LAKE, AND RIVER*

---

The blue pike is a variety, as stated, being blue in general color instead of yellow. It is smaller in size, rarely exceeding five pounds, averaging about one pound, and when compared with the yellow variety, is found to be shorter in length and of much larger girth. Its original home was in the Ohio and Mississippi Rivers; but it is now freely taken in the Great Lakes, and a few tributary waters, generally in depths of from twenty-five to seventy-five feet.

The gray variety is also an inhabitant of the Great Lakes, as well as large adjacent lakes and rivers that can be readily reached from them. It is probably the most numerous of the several varieties, and it certainly attains the largest size. The record fish weighed in the vicinity of forty pounds, while those from ten pounds to twenty pounds are frequently taken. The majority of anglers, in securing other than the yellow variety, class their catch as a blue pike. The probabilities are that the fish is of the gray variety, from the fact that it is the more common fish of the two, and the size usually taken exceeds in weight the average of the blue. The color-distinction is not very marked, unless both varieties are compared, side by side.

The distribution of the pike-perch is much greater than is generally supposed, and the area in

---

## *THE WALL-EYED PIKE*

---

which it is found is constantly increasing, both naturally and by planting. Properly speaking, its natural home is in all of the Great Lakes. It is also found far north in Canada, in Lake St. John, and even in Lake Mistassini. It is plentiful in the Ohio and Mississippi Rivers and their tributaries, as far south as Alabama and Arkansas, and in a number of the Atlantic coast rivers between the St. Lawrence and South Carolina. Until recently, it was but little distributed throughout New England waters, but, owing to the recognition of its value, is being rapidly introduced there.

The pike-perch ranks on an equality with the lake trout and whitefish for the table, becoming more noted in this regard each year. Naturally they are constantly sought for, and are netted in immense numbers; the quantity taken yearly would almost exceed belief. Fortunately it is a most prolific fish, one of medium size yielding from one hundred thousand to two hundred thousand eggs. The spawning season occurs during April and May, the eggs hatching out in about fifteen or twenty days. The fry has a multitude of enemies, but fortunately grows very rapidly. The United States Fish Commission, and the Commissions of two or three States, have taken up the matter of hatching and propagating these fish

---

## FOREST, LAKE, AND RIVER

---

extensively. In the inception, many difficulties were met with, and success was difficult to attain. The necessity for artificial hatching was known to be so great, owing to the great demand for them as a food-fish, and their consequent depletion, that many failures only spurred on to success. No difficulties are now met with, and these particular hatcheries are considered especially successful.

The variation in size and weight of the pike-perch is very great, very large fish being taken in the larger bodies of water. In the smaller rivers and lakes, the weight will average from two to about six pounds, with an occasional one of eight or ten pounds. In the Great Lakes, ten to twenty pounds is not an uncommon weight, and occasional fish of twenty-five pounds and even heavier have been found in the nets.

The pike-perch is very migratory in its nature, often changing its locations daily, and not infrequently several times a day. Now it will be found in shallow water of from six to ten feet in depth, while possibly on the morrow it can only be taken in thirty or forty feet depths or more. Usually assembling in schools, the fisherman can feel almost assured that if he succeeds in taking one, others may be secured in the vicinity. Unquestionably it is one of the cleanest of the game



---

## THE WALL-EYED PIKE

---

fish, both in the waters it inhabits, the bottoms it seeks, and its food. It is never found in stagnant or polluted waters, only in deep swift-running rapids, in rivers, or in the lakes. Over stone, gravel, sand, or marl bottoms, it remains always, and live bait, usually minnows, constitutes its principal food.

Within a few years, this fish has come rapidly into prominence, its many good qualities having become better known, and making it a favorite with anglers. That it is a game fish in all particulars cannot be gainsaid, it being an especially hard, lusty fighter. At all times during the open season, they can be taken successfully, variations of weather or the time of the year seeming to make but little if any difference. Equal success is met with in fishing through the ice, as may be had on warm summer days.

The name pike-perch is absolutely correct, as the fish is in reality of the perch family, being the largest member, with something of the appearance and habits of the pike. The general coloration and markings of the body and fins are very similar to the common yellow perch, thereby establishing its relationship. While, as previously stated, its natural inclination is for live food, principally minnows, it must be given credit for not destroying young game fish. It is a matter of record,

---

## *FOREST, LAKE, AND RIVER*

---

proven by examination, that in many fish opened, none have been found to contain black bass or other valuable fish. The ordinary minnows, such as chub and shiners, seem to be their choice. In angling, they have been known to take crabs, dobsons, crickets, worms, frogs, and even pieces of cut bait.

There is no question but what any clean waters will support these fish, and there should be no hesitancy in introducing them, especially in view of the fact that they will not destroy the young of any other valuable fish that may be present. As they bite freely during all parts of the open season, they make a valuable addition to any fishing waters. It is a grave mistake, therefore, not to introduce them into all rivers and lakes suitable to their maintenance.

While prolific in eggs, the young or fry of the pike-perch have many enemies to contend with in their infancy. Practically, all well-known fresh-water fish prepare nests or hollows in the gravel or sand in which to deposit their eggs, while others drop them on grass or weeds, to which they adhere. In the case of the pike-perch, they seek the running water of streams entering a lake, and drop the eggs as they swim along. The males, closely following, drop the milt upon them as they gradu-

---

## *THE WALL-EYED PIKE*

---

ally sink to the bottom. The fry, upon hatching out, are almost invisible, being almost as thick as ordinary thread, and one-quarter of an inch long. In five or six days, the food sacs are absorbed, and those that have survived their natural enemies become cannibalistic, and devour each other. A few days later, they seek the crustacea natural to all waters, and their growth is rapid.

The foregoing describes the subject-fish in a general way, its method of spawning, varieties, its natural waters where found, and the possibilities of introducing it into other waters. This much being made known, it naturally follows that it is of the greatest importance that the methods of capture should be described. Not that they are so many or varied, but rather to make known the proper tackle and bait to use, as the consensus of opinion of many anglers suggests.

In trolling for pike-perch, all patterns of spoons seem to be about equally successful, the best sizes being numbers four and five. The triple hook usually found on spoons should be replaced by a double one, and all feathers removed. The double hook is generally preferred, as being more easily taken by the fish than a triple. Fishermen, as a rule, now admit that feathers tied to a spoon hook are of but little if any value, — if not detri-

---

## FOREST, LAKE, AND RIVER

---

mental, — and advise their removal. The addition of a generous bunch of worms to the hooks of one's spoon seems to increase the efficacy of the bait many fold.

In trolling with a light rod, the regular D or E casting line should be used, properly sinkered for the depth of water to be fished. Many prefer, in lieu of a sinker, to use a number of feet of number twenty copper wire attached to the spoon. This drops the line equally as well, and is not so conspicuous. It can be set down, as a general rule, that the lighter and less noticeable one's tackle is, in angling for all kinds of fish, the greater the success will be. By the use of wire, the depth at which to keep the spoon is more easily controlled.

There are many anglers who are adverse to using a spoon, to whom can be recommended another method of trolling that will prove equally successful. Using the same rod and line, wire and sinkers are omitted, and a number one snelled hook is attached to the line by a swivel. A live minnow is used for bait, and is fastened by hooking through both lips. In this method of trolling, fully seventy-five feet or more of line should be let out, and the boat rowed slowly, allowing the bait to sink well down naturally. As minnows are equally attractive to bass, muskal-

---

## THE WALL-EYED PIKE

---

lunge, and pike, there is always a prospect of securing some of these.

In this method of fishing, one rule must be invariably followed to insure success. When the proper length of line is out, fully eight or ten feet additional should be drawn from the reel and held loosely in the lap. In case of a strike, this line is thrown free, to allow the fish to properly swallow the minnows before being struck and hooked. The oarsman should stop rowing at the same time. If the fish is struck at once when it bites, without allowing any slack line, non-success will usually follow, as a moment or two is necessary to allow the minnow and hook to be gorged.

In river fishing for pike-perch, either in rapids or at points where the current is strong, a most successful method to follow, is to anchor the boat, and to use the same plan of tackle as just described, but with the addition of a sinker suitable to the strength of the current. The sinker should be fastened fully six or eight feet above the hook, permitting the minnow to play about freely. Sufficient line should be let out to allow the bait to reach close to the bottom. It is not necessary to have slack line in the lap as in trolling, but the fish should not be struck for a moment or two after it bites. As a light rod is being used, both

---

## *FOREST, LAKE, AND RIVER*

---

in trolling and this method of fishing, equal sport may be had in playing the fish, and bringing to net, as when fly casting. True, the sensation of seeing the fish jump for the fly, and striking it, is lacking; but, as previously stated, there is much of sentiment in that; the full measure of sport may be had otherwise. When still fishing for bass with crabs, dobsons, and other bass bait, pike-perch are quite frequently taken, that is, in waters where both fish are found.

There can be no question but that the pike-perch is now receiving increased attention, and will soon be fully accredited with its many good points. In all respects a game fish, ranking well with the others, it is to be hoped that increased attention will be given to its propagation, and that all suitable waters will be stocked with them.



## FOREST, LAKE, AND RIVER

---

in trolling and this method of fishing, equal sport may be had in playing the fish, and bringing to net, as when fly casting. True, the sensation of seeing the fish jump for the fly, and striking it, is lacking; but, as previously stated, there is much of sentiment in that; the full measure of sport may be had otherwise. When trolling for bass with crabs, dobsons, and other baits, but, pike-perch are quite frequently taken; that is, in waters where both fish are found.

There can be no question but that the pike-perch is now receiving increased attention and will soon be fairly credited with its many good points. In all respects a game fish, ranking well with the others, it is to be hoped that increased attention will be given to its propagation, and that the waters of our lakes will be stocked with them.

“*THEY, in magic  
moonlight rings.*”







## THE SPIKE-ARMED WIGHTS

---

*In the Nights of Long Ago,  
When the Fairy Folk had power  
Gold or Beauty to bestow,  
They, in magic moonlight rings,  
Oft were wont to wave their wings  
And their wands, too, by the hour.*

*One sweet Night of Long Ago  
It befell, as by a pond  
Strolled a Fairy Lady, slow,  
She beheld some gallant wights,  
Heroes of a hundred fights,  
Lying in a field beyond.*

*That sweet Night of Long Ago,  
In close array the gallants lay,  
And their armor in the glow  
Of the moon was wondrous bright,  
And the splendor gave delight  
To the wondering Lady Fay.*

*That sweet Night of Long Ago,  
Were they sleeping — were they dead,  
Smitten by a treacherous foe?*

---

## FOREST, LAKE, AND RIVER

---

*Unto them the Lady Fay,  
In a second, stole her way,  
And she found their souls had fled.*

*But they looked so splendid still,  
In the moonlight silver-pale,  
That the Lady had a will  
Not to leave their bodies there  
For the carrion kites to tear,  
Or the rust to dim their mail.*

*So she waved her moonbeam wand,  
Said: "Brave wights, I change ye so;  
Be ye fish in yonder pond,  
Mailed in beauty, armed with spikes;  
And till Time's last moment strikes,  
Wander lightly to and fro!"*

*Then to swordsmen of the pond,  
That sweet Night of Long Ago,  
Were they by the Fairy fond  
Thus resolved — their steely glints  
Banded round with dusky tints,  
Ridged with webs of golden glow.*

*And in Summer's fairy nights,  
Or its dreamy days, we still  
Can evoke those charmed wights.  
If must, let our lines descend  
'Neath green pads, where bushes bend,  
By some pond or ancient mill;*

---

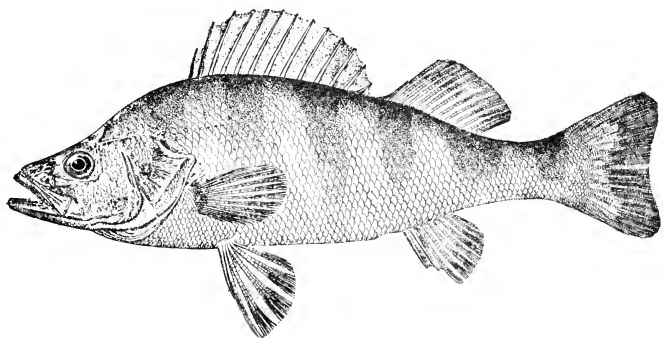
## THE SPIKE-ARMED WIGHTS

---

*But we will, if we are wise,  
Let our floats in silence rest ;  
For these fellows like to rise  
Softly, and as if by choice.  
Creatures of a Fairy's voice,  
They, by noises, are distressed.*



YELLOW PERCH. *Perca flavescens*







## *THE YELLOW PERCH*

---

NE of the most beautiful of fishes, distinguished by peculiar and dainty coloring, is the yellow perch. His armor of scales is of a bronze tint, marked by transverse bars of a darker shade, while the whole body gives forth an iridescence of equal splendor to that of the peacock. The fins are tinged with red suggestive of the glories contained in old cathedral windows.

In his first dorsal fin, he has a weapon by which he can defend himself and also give offence. When angry, all his spines become erect and bristling, and when taken he can inflict painful, and even dangerous lacerations, if he is not most carefully handled.

Perch prefer to live in lakes and ponds and pools. They apparently shun fast-running waters. For food, they prefer worms, grubs and other insects, and small fishes, even at times devouring their own kind. They are not especially rapid in movement, but will dart among a school of minnows with distended mouths, intent upon capture.

The flesh of the yellow perch is delicious and

---

## FOREST, LAKE, AND RIVER

---

delicate, and does not always command the attention of which it is worthy.

When we were young and fished for perch, any sort of a pole, line, hook, sinker, or float — and for bait a worm, a minnow, or insect — seemed sufficient to insure a good catch. Later on, the pole gave place to a light rod with reel, and line and float, sinker and hook became much smaller and less clumsy.

Perch will rise to a fly, at times, in the late springtime. Gray-winged flies, with some red in the body, have given me better results than any I have tried. Abroad, “paternostering” from a punt is a favorite method of taking perch; but it is rarely tried in New England, so far as I have been able to learn.

In lakes, large fish take a spoon or an artificial spinning minnow. At times they prove to be most greedy fish, and large numbers are taken. Shrimps, also, make excellent bait, when they can be obtained. The mouth of the yellow perch is tender, and the angler should be careful not to strike hard.

Perch may, in the winter, be taken through the ice, and thus many are caught. They are very tenacious of life, more so than most of their finny brethren.

---

## THE YELLOW PERCH

---

I remember well, when a schoolboy, on one occasion, securing a fish that appeared to me to be tremendous; but, in the light of later days, I dare say in reality he weighed, perhaps, a pound and a half. I kept him alive, and when I reached home, placed him in a tub of water, where he lived for months. I caught for him live minnows, and one day, after he had eaten, I forced another minnow down his throat. It is scarcely necessary to say that thereupon he died, much to my childish regret. He had become quite tame, like unto certain trout that I have domesticated in an aquarium.

Of late years I have tried for perch with the fly only, and when black bass fishing have at times had some fine specimens accept the lure then used.

In my opinion, it would be worth while to study the perch more closely, and to tempt him by various bright and shining lures, of such character that quite an amount of skill would be needed to make a capture.

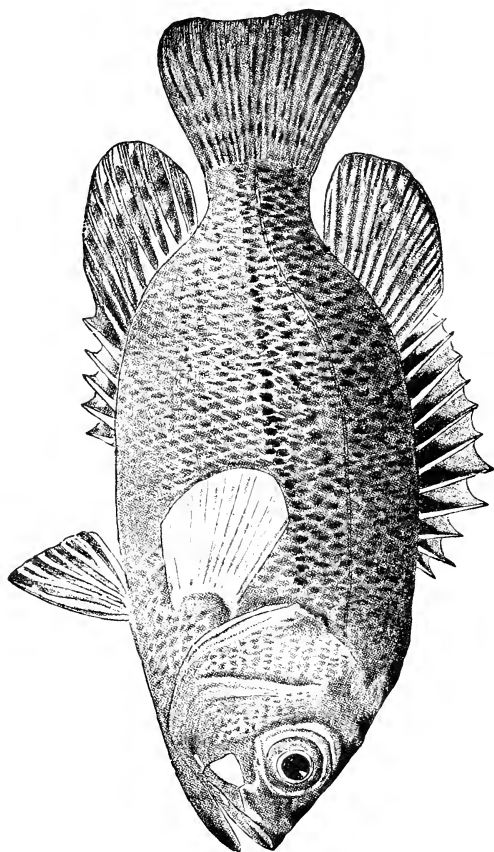
While on our way to more ambitious waters, we sometimes linger on the banks of a pond where only perch or a stray bass or so are to be found, and here we could well occupy our time by using light tackle with a view to ascertaining what we could accomplish with it.



*THE SUNFISHES*

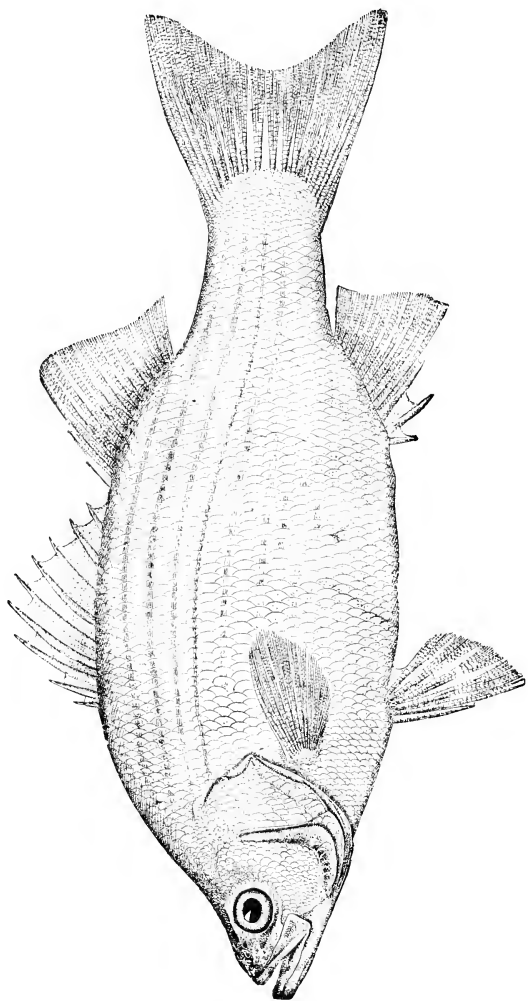
---

COMMON ROCK BEE, *Andrena campestris*



THE WHITE BASS, *Roccus chrysops*







## THE SUNFISHES

---

**I**N the family of sunfishes (*Centrarchidæ*) are grouped a number of important species, living in fresh waters, that are sought for by rod and line fishermen. Excluding those of the salmon, pike, and perch forms, the sunfishes may be said to include nearly all of the other so-called game fishes of the "sweet water." A glance at the names of the species forming this large family will confirm this statement, to wit:

The strawberry or calico basses (two species), the sunfishes, popularly so-called (twenty-four species), the Rock basses (two varietal forms), the Sacramento perch, the warmouth, and the black basses, which consist of two species, the large and small mouthed.

In this connection it may be well to note that the large sunfish, so-called, of the salt waters is not included in the sunfish family, and has no connection with it, anatomically or otherwise. Its proper popular name should be "head fish," as its shape suggests.

---

## FOREST, LAKE, AND RIVER

---

Among the sunfishes proper, we find twelve genera and about thirty species, which form one of the most characteristic features of our fish fauna.

We will now treat them *seriatim*, following the classification laid down by ichthyological authority. First, the calico or strawberry basses:

There are two species of these fishes; one, the crappie, the bachelor, New Light, Campbellite, and crapet, variously and locally so-called, is a native of the Great Lakes, southward to Texas, and westward to Kansas and Nebraska. It is technically known as *Pomoxis annularis*, the generic appellation being from two Greek words, the literal translation of which is "opercle" and "sharp," in allusion to the shape of the gill-cover; the specific name is from the Latin *annularis*, "having rings," which indicates the markings on the fish.

The crappie is not abundant in the Great Lakes, preferring the less clear waters of the bayous of the south, and the warmer ones of the ponds and rivers in that section. It grows to an average length of twelve inches, and to the weight of a pound; but individuals have been taken of an exceptional weight of three pounds. Among the anglers of the south, the crappie is a favorite fish, taking a live minnow with sprightliness, and giving a fair

---

## THE SUNFISHES

---

fight on the rod, but is not as pugnacious as the average black bass of similar size, its struggles being shorter. It is, however, a wary fish, easily frightened, and caution is required when approaching its feeding grounds.

A close relative to the crappie is the strawberry or calico bass; in fact, it is difficult for the angler, if not closely observant, to differentiate the two fishes; as we proceed, an effort will be made to make this "clear sailing" for him. The strawberry bass, like its congener, bears a profusion of popular names, some of them being identical with those given to the crappie, which renders confusion worse confounded. It is called, indiscriminately, the strawberry perch, grass bass, silver bass, Chinquapin perch, big-fin bass, bar fish, lamp-lighter, and, in some sections, the bitter-head and razor-back. To add to the perplexity of identification, in the extreme south it is baptised "goggle-eye," a name that has been bestowed on the rock bass, and by right of priority should not be encroached upon.

The strawberry or calico bass is technically *Pomoxis sparoides*, the specific name being from two Greek words meaning "*sparus*" and "resemblance," in allusion to its similarity of form and general appearance to fishes of the porgie or spar-

---

## FOREST, LAKE, AND RIVER

---

oid family. The strawberry bass grows to an average length of ten inches, and the weight of a pound, but unlike its brother of the same genus, delights in cold and clear waters, and is seldom seen in muddy bayous. Its range of habitat is more extended to the eastward than the crappie, as it is found from the Great Lakes southward to Florida, Louisiana, and Texas, and eastward to New Jersey. It is an excellent pan fish, and, like its relative, fights well on restraining line and rod.

As this fish is being very generally introduced into New England waters, it is well to explain the differences in form and coloration of the two species. Both are similar, to the ordinary observer, in appearance; but on a close inspection it will be found that the profile of the crappie (*annularis*), when the mouth is open, is more or less shaped like the letter S, which is mainly owing to the projecting snout; in the profile of the strawberry bass (*sparoides*), this peculiarity is not so strongly shown, as the projection of the snout and the depression over the eye is less marked. The coloration of the two species is similar, except that the dark blotches on the body of the first-named fish show a tendency to form narrow vertical bars, while on the latter they are gathered in small irregular bunches, covering the entire body.

---

## THE SUNFISHES

---

These fish may also be distinguished from each other by the coloration and markings on the fins. The dorsal and tail fins of the crappie are of a greenish color, and the anal fin is palish, nearly plain ; while the vertical and anal fins of the strawberry bass are covered with dark olive reticulations surrounding pale spots.

The rock bass is also known popularly by the name of red-eye and goggle-eye. The text-books call it *Ambloplites rupestris*, the literal meaning of which is "blunt and well armed or scaled" and "living among rocks." It ranges from Vermont westward to the Great Lake region, and southward to Louisiana, being very abundant west of the Alleghany Mountains. It has a large mouth and head, the profile being arch-like ; the coloration is rather a rich olive-green, brassy-tinged, with many dark blotchings or mottlings, and dark spots on the scales, which gives the effect of blackish, interrupted lines or stripes. It seldom grows larger than twelve inches, and one pound in weight ; but specimens weighing over two pounds are occasionally taken. It is a single species of a single genus.

The rock bass is a fairly good fighter on light tackle, but far inferior in game qualities to his brother, the black bass, giving up quietly after two

---

## FOREST, LAKE, AND RIVER

---

or three rather strong and desperate surges. They will take an artificial fly, when thrown to them on the surface, but do so without much snap or eagerness. What the fish lacks, however, in game-ness, it makes up for when broiled and placed on the table. It is a delicious breakfast-fish.

The wrymouth bass (*Chænobrittus gulosus*) is also known as the goggle-eye, which confuses it among fishermen with the rock bass (*Ambloplites rupestris*), one of the most generally recognized common names for which is goggle-eye. The wrymouths, however, are not numerous in New England or Canadian waters, being more so west and south of the Alleghanies; hence, the similar popular names will not be apt to embarrass the anglers of the northeastern waters.

The coloration of the wrymouth is dark olive-green above, usually clouded with red and blue, with a brassy hue over all. There are three oblique dusky or reddish bars radiating from the eye, and on the last rays of the dorsal fin a faint spot appears, bordered by paler coloration.

One of the Greek words from which its generic title is taken, signifies "to yawn," and *gulosus*, its specific name, is from the Latin, meaning "large mouth," in reference, doubtless, to its natural capacity to yawn hugely, that is, if such action is



---

## THE SUNFISHES

---

among the gifts of the tribe with fins; fortunately, there is nothing tedious to do, or tiresome to listen to, in the sprightly food-seeking, active life of a fish. The warmouth takes the fly, as well as natural baits, but is not so combative as its relative, the rock bass.

There is a little sunfish, which seldom grows more than three inches long, that is found in Charles River at Boston, and it is one of the most beautiful of the sunfish family. It has no common name, except that of "sunfish," but is exceptionally gifted with a technical lengthy appellation, — *Enneacanthus obesus*, which means "nine" "spine," and "fat." The color is olivaceous above the median line, with five to eight blackish cross-bars and a spot, just behind or on the gill-cover, of velvety black, bordered with purple; the spots on the body and fins are golden or purplish, and on the cheeks are lines and spots of similar coloration, — a beautiful fish, but one of the smallest of the family.

Of the other sunfishes popularly so-called, only four species are indigenous to the waters of New England and Eastern Canada. Of these the best known is the "common sunfish" (*Eupomotis gibbosus*, the derivation of the generic name being rather confusing; the specific, *gibbosus*, "formed like the full moon," is doubtless in reference to the com-

---

## FOREST, LAKE, AND RIVER

---

pressed and broad round shape of the fish). This is the fish delighting boyhood, and is indiscriminately called pumpkin-seed, bream, tobacco-box, kiver, and sunny. It may be distinguished from its fellows by the red spot on the flap of the posterior gill-cover, a mark which distinguishes this species from all others of the family. Its general color is greenish olive above, shaded with a bluish tone; the sides are spotted and blotched with orange, and on the cheeks are blue wavy lines on a groundwork of orange, — a brilliant fish, perfect and shining as a coin fresh from the mint. W. C. Harris, in his "Game Fishes of Pennsylvania," remarks :

"I confess to a fondness for catching the 'pumpkin-seed' upon the lightest of fly rods, with leader and line approaching spider-web consistency. I have caught them, averaging half a pound in weight, by the dozen, with black and brown hackles; and when they reach that size, they are so sprightly in their play, when fastened on delicate trout tackle, that we cannot deny them a niche in the gallery of game fishes."

Another sunfish, known as the yellow belly or redbreast, is very abundant in New England streams, in fact, in all fluvial waters east of the Alleghany Mountains and as far south as Louisiana. It is classified technically as *Lepomis auritus*, the generic

---

## THE SUNFISHES

---

name being from two Greek words, "scale" and "operculum," in allusion to the rows of scales on the gill-covers, and the specific, from the Latin, *auritus*, "eared," in reference to the opercular flap, which is exceptionally long. The coloration above is olive, and the belly is largely red and orange, the scales on the sides having reddish spots on a bluish background. The head has upon it several bluish stripes, which show most prominently in front of the eye of the fish. It seldom exceeds a length of eight inches, but gives excellent play on the hook.

The two remaining indigenous species are found in the Great Lake region, from thence south to Florida and the Rio Grande. One, the blue-spotted sunfish, also called green sunfish and little red-eye, grows to about seven inches, and is noted for the brassy lustre on its green sides, merging into yellow on the belly, the red spot in its eye, the faint blue spot with gold edging on each scale, and the blue and green on the vertical fins.

The blue-gill sunfish, called in many western localities, blue bream, blue sunfish, copper-nosed bream, and dollarder, is the final species to be referred to as native to the waters of Eastern Canada. It is one of the least ornate in color among sunfishes, as the adult fish is of dark olive coloration above, and very old specimens are dull

---

## FOREST, LAKE, AND RIVER

---

and coppery red on the belly; the young fish, however, are more brilliant in coloration, being silvery, with chain-like undulating transverse greenish bars on the body, and having none of the black blotches on the last rays of the dorsal and anal fins which always exist on those of the adult fish. The specific name indicates its lack of brilliant coloring, being from the Latin, *palladus*, "pale."

In the sunfish family is included one of the most important species of game fish; in fact, by many anglers, it is considered the peer of "any fin that flirts." They are the black basses (*Micropterus*, "small fin"), of which only two species exist, the small-mouthed and the large-mouthed, names that differentiate at once the two forms on sight. Extend the jaws of a five-pound large-mouthed, and the throat capacity will be found sufficiently large to engulf a new-born baby. Held fast on a tensile line, and as he is reeled in, his enormous gullet will take in enough water to quench his vitality, and he will come a drowned fish to the net. Not so, however, with his small-mouthed kinsman, whose acrobatic fight upon the rod is only equalled by the rainbow trout and the ouananiche of similar weight. So great is his reputation as a combatant, that anglers, here and there, assert that, as a

---

## THE SUNFISHES

---

daily fishing diet, they prefer black bass angling to that for the lordly salmon. In some north-western waters, notably in those of Minnesota, the large-mouthed species are said to have fighting qualities somewhat similar to those of the small-mouthed species.

The methods and dates of introduction into New England waters, and fishing for black bass, is so minutely and ably described on subsequent pages by an expert of the art, that we have only to deal with the two species in a general and somewhat technical manner.

The small-mouthed black bass has many common names, of which we find on record: achigan, trout, Oswego bass, juniper, moss bass, chub, welshman, mountain trout (in Alabama), marsh bass, river bass, rock bass, slough bass, green bass, spotted bass, green perch, yellow perch, black perch, and speckled hen,—eighteen in all, and there are many others, equally inappropriate and confusing, existing all over the country.

The scientific baptismal title of the small-mouthed is *Micropterus dolomieu*, the specific after a Parisian mineralogist of that name. This title was conferred upon the fish after it had suffered in recognition under the weight of a mass of ichthic nomenclature, from which Dr. Henshall for-

---

## FOREST, LAKE, AND RIVER

---

tunately relieved it. In 1873, Professor Gill differentiated the two species, the details of which are now briefly summarized.

In the large-mouthed black bass the lower jaw extends behind the eye; in the small-mouthed, to a point below it. There are on the former sixty-five to seventy scales along the lateral line from the gill-cover to base of caudal fin, and seven to eight rows of them above it; in the small-mouthed there are seventy-two or more scales on the median line, and eleven rows of them above it; on the cheek, seventeen oblique rows of scales appear, and about nine horizontal ones; on the large-mouthed there are about ten rows in an oblique line, and five to six horizontal ones on the cheeks. In the large-mouthed black bass, the first spine on the dorsal fin is one-half the length of the third spine, and in the other species, it is only one-third the height.

Black, green, and yellow seem to be the primary colors of both species; but the coloration varies greatly with the habitat, hence the following description of the color which appears on the small-mouthed is subject to considerable qualification.

On the back of the small-mouthed, a dull golden green prevails with a bronze lustre, the young with darker spots along the sides, which appear to form short vertical bars, but never a dark lateral

---

## THE SUNFISHES

---

line. There are three bronze bands radiating from the eye, across the cheeks and gill-covers; the belly is white, although in some waters it has a pepper-and-salt appearance; there is a dusty spot on the gill-cover, and in the young fish the dorsal fin has bronze spots upon it; the caudal fin is yellowish at its base, then black with white tips. In some waters, this coloration of the fins is not present on the adult fish, and in southern waters the mature fish is uniformly of a dead-green color without silvery lustre.

The large-mouthed is of dark-green color above, and greenish silvery below. In the young there is a blackish stripe along the sides, from gill-cover to base of caudal fin, and three dark oblique stripes across the cheeks and gill-covers, and below and above the lateral band are dark spots; the belly is whitish, but, "as the fish grows older, the black lateral band breaks up and grows fainter, and the color becomes more and more of a uniform pale green, the back becoming darker." The technical specific name of the large-mouthed is *salmoides*, a combination of Latin and Greek, and, translated literally, means "trout-like," a physical misnomer, as it has no resemblance to the trout, except in its gameness as a fighter when on the hook.

“*W*HEN, a truant from  
the school.”







## A STRING OF SUNFISH

*Let me dream once more of childhood,  
When, a truant from the school,  
I went roaming through the wildwood,  
Searching for a shady pool,*

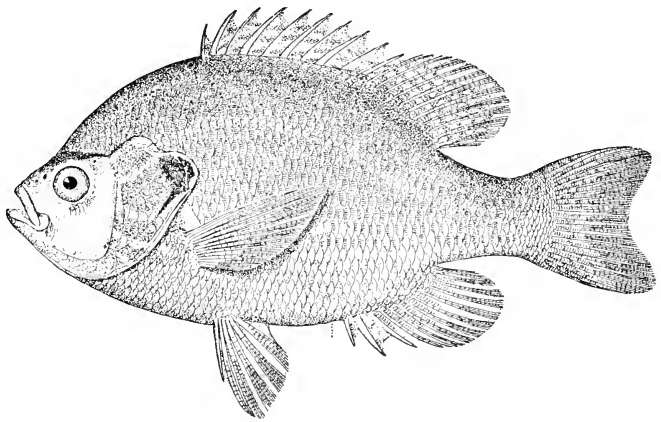
*Where, with pole and line and pin-hook,  
Stole the golden hours away ;  
Future chances risked so lightly  
For that sport of summer day.*

*One poor little string of sunfish,  
Shrunk and withered soon were they ;  
And sad twilight brought the feeling,  
Better had I stayed away !*

*It was weary, trudging homeward ;  
Luck, to reach there in good time ;  
And the lie I had been planning,  
Loomed before me like a crime.*

*Still those days were sweeter, brighter,  
Than the days to come can be ;  
Was it that my heart was lighter  
Or, perchance, that I was free?*


COMMON SCOTISH. *Euphrasia* *plowana*





## THE PUMPKIN-SEED

---

HE "pumpkin-seed" is, perhaps, the first fish that the boy remembers catching. In ponds and streams too meagre for bass, and too warm for salmon or trout, they thrive well. They are found throughout New England and also in Canada. Their food consists principally of worms, crustacea, and very small fishes.

With a very light rod and line, and with small flies, especially the "hackles," they are capable of yielding quite decent sport. All of the sunfishes make good pan fish, and, with appropriate tackle, they will probably be more sought after in the future, especially when one has not the time to go far from home, and wishes for a little quiet sport on an afternoon.

If I were to have a word in the education of the boy angler, it would be my desire to teach him to try different baits, and all ways of capturing these fishes, even to the casting of small flies; for it would repay him in a thousand ways, and give him the correct and proper knowledge that in after

---

## FOREST, LAKE, AND RIVER

---

years would be of decided advantage when the larger and stronger game fish were sought after.

All the varieties have about the same characteristics, merely differing in size and weight. Generally speaking, their manner of biting and of play is almost identical. We all well remember that we were our own teachers in our first fishing experiences, practice and ingenuity alone guiding us.

I doubt greatly, even to-day, if many older fishermen have tried the fine art with these specimens; yet I know it would repay them, were they to do so. The study of them is most interesting. At one time I kept seven of the "pumpkin-seeds" in an aquarium, and they afforded me much amusement, especially one chap who crowned himself king. He, indeed, was the "boss." He selected his own corner, and drove every intruder from it, at times chasing them round and round, biting at them at every chance, then again seeking his chosen quarters and glaring fiercely when any one of the others dared to come near. He always succeeded in getting more than his share of the food. These sunfish all lived long, and became quite tame.

The sunfish, notwithstanding plenty of small bones, are good, sweet eating when properly cooked. Most of us, doubtless, remember them



---

## *THE PUMPKIN-SEED*

---

with a true fondness, for to them we owe the stronger love of angling that becomes more fascinating as the years roll on. For one, I would say, "God bless them," for opening to me the first page of nature's wonderful book.



“THE kiss of sunset’s  
parting”



Ab. C. 10



THE CLOSE OF DAY—

LAKE KATADIN

*The shadows now are purpling  
The crest of distant hills;  
The Crimson God is wearied,  
But Evening's quiet thrills.*

*The Loons begin their calling;  
The Owl his challenge sends;  
The Deer in coves are feeding,  
Where the long lake-line bends.*

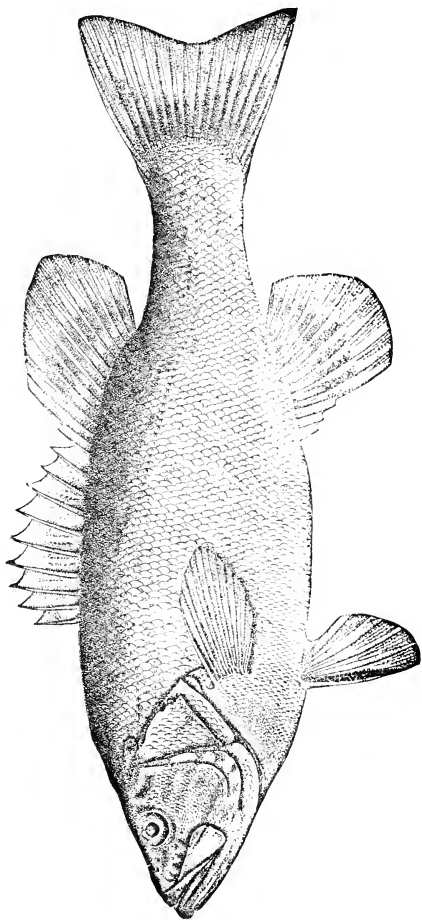
*Upon its burnished surface,  
The tall pines seem to glow,  
As on that limpid mirror,  
Their outlines ebb and flow.*

*Birches and brush reflecting,  
A shore seems not to be,  
And fiery clouds, mirage-like,  
Change hues while yet they flee.*

*A serenade is warbled  
By tiny singer true;  
And at a touch of twilight,  
Dense grows the vein of blue.*

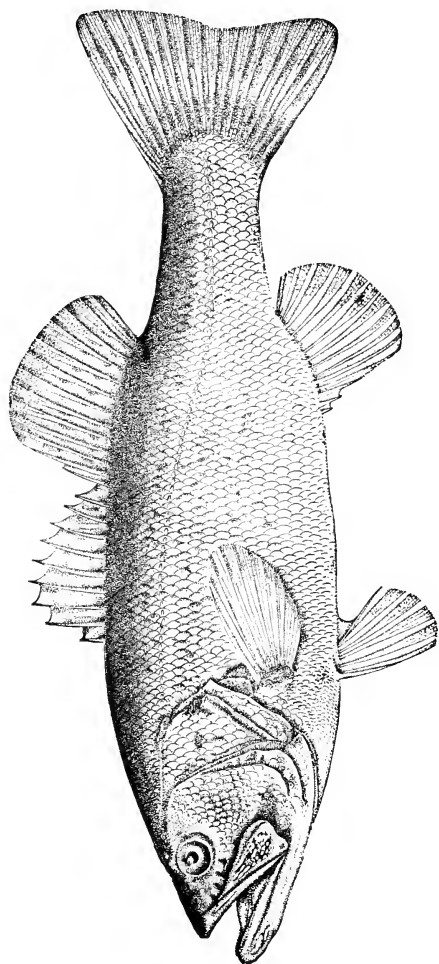
*Upon the mountain summit,  
There lingers yet a flame,—  
The kiss of Sunset's parting—  
How soft from Heaven, came.*

SMALL MOUTHED BLACK BASS. M. D. C. (1886) 11



LARGE MOUTHED BLACK BASS. *Micropterus salmoides*







*THE BLACK BASSES*

---



## *BLACK BASS*

---

### *OF THE RAINBOW*

---

**I**T is near the hour of sunset's parting. Lake and forest are bathed in tints of gold. Soft and gentle is the breeze that kisses into ripples the surface of the water. The canoe is held motionless at a spot where the line of shore bends, forming a miniature bay, and appealing to the sportsman as a favorite place of the gamy little fighters whom he is soon to meet in fair combat. He selects a spot where the distance from the bordering bush-growth seems to indicate the right depth of water, and makes the cast. The flies fall gently upon the water. Quickly is the challenge accepted. The fish is struck securely; a whirr of the reel, a flash of a darting body, and the fight has begun!

No more marvellously beautiful spot or entrancing sport is conceivable, excelling as it does both in excitement and kaleidoscopic coloring, at such an hour on a perfect day.

Now comes a struggle for supremacy 'twixt human skill and the power Nature gives to one

---

## FOREST, LAKE, AND RIVER

---

of the finest in the ranks of her brave soldiers. By a mighty upward leap, the fish clears himself, and, shaking fiercely in the attempt to get rid of the tormentor which a few seconds ago he regarded as a dainty morsel, throws about him a shower of drops which in their falling catch the sun rays that gird him for an instant with prismatic rainbow tints, that are lost as quickly as he falls back again and tries another rush.

Of no avail are these bursts of speedy flight, for the rod is held by a master hand, and the captive is forced to try another leap. The repetition of this rainbow effect comes with every quivering jump for liberty, as long as the golden hue in the atmosphere remains,—a hue too fleeting altogether, for it gives such keen pleasure that one's desire is to have it last for hours.

Most fortunate is he who has once met with this charming phase of fishing experience. Twice it has been my good fortune, once on a Maine lake, and again on a pond or very small lake in Massachusetts.

The glorious sunset of summer seems to me to be most perfectly described in the "Revelation of Saint John," where we are told of the glories of a city paved with gold. Words uninspired cannot convey even an idea of the perfect blending of

---

## BLACK BASS

---

color, or the magic touches of vivid hues that enrich natural objects, nor can the power of brain convey, in words potent enough, the picture of such a scene to another.

The leap of the bass is distinctly characteristic. He sharply lifts his body clear from the water, then shakes himself, always throwing a shower of spray about him, and instead of plunging forward, falls downwards and backwards, as if he thought by this manœuvre he would be able to snap the line that holds him. By this peculiar action, he becomes the unconscious creator of the beautiful rainbow-effect under the conditions I have described. Perhaps, with the kiss of dawn, an effect similar might be obtainable; but, personally, I have never tried this early hour for bass fishing.

It was my good fortune at one time to see a very large number of tarpon, leaping and hurling themselves into mid-air, the strong sunlight causing the silver flashings to appear strikingly beautiful and dazzling; but the peculiar blending of primary colors was absent. With no other species of fish, save the bass, have I ever observed it. Two fishermen of varied and wide experience, with whom I discussed this subject, were most enthusiastic concerning its transient but exquisite and wondrous beauty.

---

## FOREST, LAKE, AND RIVER

---

It is my strong hope that many of my readers who have never enjoyed sport under the conditions I have vainly endeavored to depict, will, at the first opportunity, seek to acquaint themselves with this delightfully picturesque phase of bass fishing.

To my mind, fishing at any time and in various ways for this species of game fish is always extremely satisfactory. One is never disappointed in his strong, good, fighting qualities as we find him in New England waters. His personal attributes are striking, and his individuality dominant. His ability excites our admiration. Wherever he is found, dependence can be placed upon him. Even the tiniest chaps who rise and take the fly, strongly resemble their elders in power of resistance and obstinacy. Many and many a time have I carefully taken from the hook and gently returned to their watery home scores of medium-sized fish, with a blessing for their pluck, and a hope that their lives would be spared until such time as they might be fairly sacrificed on the Altar of Sport, giving pleasure to other anglers.

After all, it is the contest that is the source of real joy, rather than the unnecessary taking of large numbers of fish. Every black bass of the small-mouthed species is game to the bitter end,

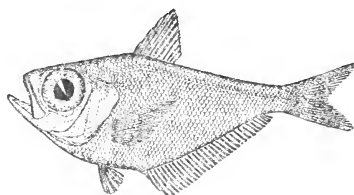


---

## *BLACK BASS*

---

never giving up, always fighting as bravely and as hard as his failing strength will allow. Therefore, to my good friends would I say, behold for yourselves the glories the Black Bass of the Rainbow alone can reveal to you.



BASS FLIES

POODLE BUG

SCARLET IBIS

GRIZZLY KING

HENSHALL

SILVER DOCTOR

COL. FULLER

GREENHOPPER

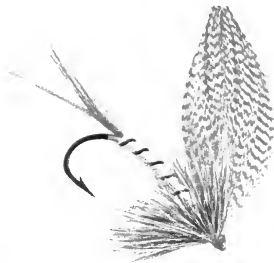
GREY BRAKE

POLKA

ORIOLE

MONTREAL

PROFESSOR





## *THE BLACK BASSES*

---

HILE both species of black bass, the large-mouth and small-mouth, are indigenous to Canada, Lake Champlain, and western New York, neither species is native to the waters of the Atlantic slope of New England or the Middle States; at an early day, however, they found their way from the Great Lakes, through the canals, to the Hudson River. The absence of the black bass, originally, from New England might seem remarkable, inasmuch as the large-mouth bass abounded in all coast-wise streams from Virginia to Florida. The fact, however, is in accordance with the faunal peculiarities of New England, as compared with the rest of the United States east of the Rocky Mountains. For instance, while more than one hundred genera of fresh-water fish occur in the streams east of the Mississippi River, less than one-fourth of them are found in New England, and of these only about half a dozen genera are represented by more than one species. This state of things was noticed by

---

## *FOREST, LAKE, AND RIVER*

---

Professor Louis Agassiz, who designated New England a "Zoölogical Island," on account of the rarity or absence of the characteristically American forms of fresh-water fish, and other zoölogical peculiarities.

During the last half of the nineteenth century both species of black bass were indiscriminately planted in the waters of New England. Perhaps the first instance was in 1850, when a few were transplanted from Saratoga Lake into Flax Lake, near East Wareham, Massachusetts, by Mr. Samuel Tisdale, of that place. Some twenty-five ponds in the same county were stocked within the next few years. In 1866, the Cuttyhunk Club introduced black bass into a pond on their grounds; and in 1869, the Fish Commissioners of the State stocked several ponds and Concord River.

In Connecticut, about 1853, black bass were introduced into Waranung Lake, in Litchfield County, from a lake in Dutchess County, New York. Many other lakes and ponds in the State were stocked previous to 1867. From 1869 to 1872, nearly forty ponds were stocked with black bass.

In New Hampshire, as early as 1864, black bass were planted in Rust's Pond, near Wolfboro.

In 1867 they were brought into the State from

---

## THE BLACK BASSES

---

Mr. Tisdale's ponds in Massachusetts. A number of other lakes were stocked in the following year, and in 1870 the Fish Commissioners of the State introduced black bass from Lake Champlain into many other lakes and ponds.

In Maine, about 1869, a number of lakes were stocked with black bass from Newburgh, New York, by the State Fish Commissioners and the Oquossoc Angling Association.

In Rhode Island, in 1870, and subsequently, the State Fish Commission stocked some thirty ponds and small lakes with black bass.

In east Vermont, also, several small lakes were supplied with black bass at an early date.

Some of the waters in the States mentioned were very suitable, while in others the conditions were not at all favorable; consequently the black bass introduced have in most instances found a permanent home, but have entirely disappeared in others.

There seems to exist a feeling of opposition to the black bass in some sections of New England that is difficult to account for by those who are most familiar with the greatest of American game fishes. This objection seems to be based on the uncertainty of the black bass in taking the fly or bait. I can readily understand that this state of

---

## FOREST, LAKE, AND RIVER

---

affairs might exist in the case of very shallow and clear ponds, for no game fish will respond to the wiles of the angler so long as he is in plain sight. If the black bass is fished for more cautiously and intelligently, the results, I am sure, will be more satisfactory. Such waters should only be fished when the surface is ruffled by a brisk breeze, or about sundown, or at dusk. Or suitable blinds should be constructed near the feeding grounds to shield the angler from view. If fishing from a boat, it should be kept in the deepest water, and long casts made toward the shallows. Or they may be trolled for with bait, fly, or spoon, with a very long line.

I cannot believe that black bass, whatever their environment, can lose their game instincts in half a century or many centuries. I am inclined to the opinion, moreover, that this opposition to the black bass is merely bias or prejudice, for it has been repeatedly asserted by some that the New England "pickerel" is superior, both as a game fish and food fish, to the black bass.

When it is considered that the German carp is declared by some to be an excellent food fish, and when it is remembered that it brings a better price in New York markets than fresh cod, hake, or haddock, one can readily understand why a soft, bony,



---

## THE BLACK BASSES

---

and tasteless pickerel is preferred by some good people of New England to the black bass. *De gustibus non est disputandum*. But when the voracious pickerel is declared to be a better game fish than the black bass, and that its introduction into the waters of New England was unfortunate, and in the nature of a public calamity, I am compelled to admit that comparisons are odious indeed, or even that total depravity still exists in the twentieth century.

As before mentioned, some waters that were stocked with black bass may now be barren, which would, of course, account for the angler's ill luck. This would very likely be the case where isolated, weedy ponds, without large bottom springs, were stocked with the small-mouth bass, such waters not being at all suitable for that species, and it would only be a question of time before they would cease to exist. Only the large-mouth bass can thrive in such ponds. The small-mouth bass prefers rocky streams, and comparatively large ponds with inlet and outlet streams of pure water. While the large-mouth bass will make their nests and deposit their spawn upon a bottom of clay, or even mud, the small-mouth bass prefer and require sandy or gravelly situations, which, if not available, will ultimately end in their extinction.

---

## FOREST, LAKE, AND RIVER

---

The black bass is much higher in the scheme of evolution than the trout or salmon, and will withstand more vicissitudes, and endure a greater range of temperature, which accounts for its wider geographical distribution, which extends through twenty-five degrees of latitude and thirty degrees of longitude.

While the two species of black bass exhibit certain predilections as to a choice of habitat and environment, especially with reference to their spawning habits, they may be considered, from the angler's point of view, as one species, for the same methods of angling apply to both.

### *FLY FISHING*

The various methods of angling for black bass are fly fishing, casting the minnow, still fishing, and trolling. Fly fishing, of course, is the most artistic and important, and should be preferred, especially on streams, where it is usually more successful than on ponds or lakes.

The black bass, being a more highly organized fish than the trout, is more wary, cautious, and intelligent, and should be fished for with corresponding circumspection, especially in clear, shallow waters. Toward sundown, and until dark, is the best time of day for fly fishing, though on

---

## THE BLACK BASSES

---

dark, cloudy days, especially on shady streams, the early morning and late afternoon hours will answer.

If wading, the best plan is to fish down-stream, keeping in mid-stream where possible, and casting ahead and to either side. The flies should be gently roved, and allowed to float, alternately, and occasionally permitted to sink below the surface several inches near likely-looking spots. In other words, the fly should be made to simulate a struggling or drowning insect as nearly as possible, but care must be observed not to overdo it by violent skittering or jerking.

In ordinary casts, the rod should not make a greater angle, backward or forward, than about thirty-five degrees from the perpendicular. In retrieving the line, it should be first lifted, then taken from the water and thrown backward with quite a quick movement, and then forward with a motion equally as quick. With the short and somewhat stiffer rods now in vogue, it is necessary to make these quick motions in casting; whereas with the old style long and willowy rods, slower and more deliberate movements were required. The rod should not exceed ten and a half feet in length, nor weigh less than seven ounces.

Usually the fish hooks itself more or less securely

---

## *FOREST, LAKE, AND RIVER*

---

upon seizing the fly ; but, in order to set the hook firmly, the angler should strike, not violently, but by a simple turning of the wrist with the line quite taut, upon feeling the slightest touch of the fish, or upon seeing its swirl on the surface of the water. When hooked, the fish should feel constantly the strain of the rod, and no slack line should be permitted until the fish is in the landing net. When the bass breaks water, the straightening of the bent rod will tend to keep the line taut while he is in the air, but he should be followed back into the water by a slight lowering of the tip to prevent the hook from tearing out with his weight ; but the moment he touches the water, he should again feel the spring of the rod. He should be reeled into close quarters as soon as possible, and should not be allowed to get below the surface. He should thereafter be held on the bent rod, neither giving nor taking line, until he turns up his side exhausted and the landing net is slipped under him.

As to artificial flies, there is a long list to choose from, and the angler will eventually learn through experience those that are the most successful with him. As a general rule, however, there are a few that seem to be more uniformly noticed by the bass than others. These are the red, gray, and brown

---

## THE BLACK BASSES

---

hackles, and such winged flies as coachman, professor, grizzly king, polka, Montreal, oriole, Henshall, and red ibis.

The only line for fly fishing is the enamelled, braided-silk line, either level or tapered. A click reel should be preferred, as being lighter and more suitable, though a small multiplying reel with adjustable click answers very well.

<p><i>CASTING THE MINNOW</i></p>
--------------------------------------

Casting the minnow for black bass requires special tools and tackle. These are a light, short, and pliable rod, not exceeding eight and a half feet in length, nor eight ounces in weight; a rapid multiplying reel; a braided, undressed-silk line of the smallest calibre, and snelled hooks, Sproat or O'Shaughnessy, sizes No. 1 to No. 3. As the minnow must be reeled up to within a foot of the rod tip, before making the cast, and as the line is of so small a size, a gut leader is neither required nor necessary. The snell of the hook is affixed to the line by a swivel of the smallest size.

The minnow is hooked through the lips, and reeled up to within a foot or two of the tip of the rod, and an underhand cast, from below upward, made to the right or left, for a distance of from

---

## FOREST, LAKE, AND RIVER

---

sixty to one hundred and fifty feet, or even more. The running of the reel must be controlled by the thumb, which should exert a light but uniform pressure on the spool to prevent over-running of the line or backlashing of the reel, which is very apt to occur with the most rapid reels before their management is fully learned. When the bait reaches the desired spot, an increased pressure of the thumb is applied to stop the reel.

The bait is permitted to swim about, if lively, at its own sweet will, and is then reeled in slowly in order to give a natural motion to the minnow, when another cast is to be made in the same manner, or until a bass is hooked, when he is handled in the same way as just described in fly fishing.

### STILL FISHING

Still fishing is practised from the bank or from a boat, and is so well understood that a detailed description is not necessary. Almost any style of rod or tackle may be used at the pleasure of the angler, but that named for casting the minnow is the most elegant and suitable. If strong live minnows are used for bait, a float is not necessary, otherwise, one should be used, especially where crawfish or worms are employed for bait. As still fishing is usually practised in comparatively deep water, the time of

---

## THE BLACK BASSES

---

day does not matter so much, though the early and late hours are the best.

### TROLLING

Trolling is practised from a moving boat, either with or without a rod, though it is more workmanlike, and more in accordance with the true principles of sport, to use the rod, which may be the one mentioned for casting the minnow, or a somewhat stiffer and heavier one may be used. Braided silk or linen lines are employed, and they may be a size or two larger than for casting the minnow. The bait may be, preferably, a minnow, alive or dead, or a trolling spoon of small size, though all hooks but one should be broken off; the cruel triangle of three hooks should never be employed by the humane angler, and moreover one hook is more effective in every way. Trolling with a long line, and with the minnow or frog for bait, is very effective on ponds where the water is very clear and still, and these are, perhaps, the only conditions under which this mode of angling may be justified, or at best preferred.



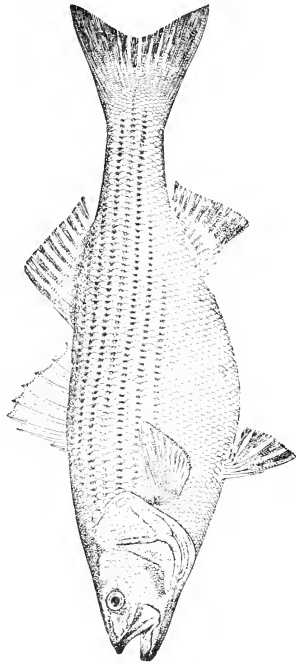


*THE SEA-BASSES*

---

•







## THE SEA-BASSES

---

ALTHOUGH somewhat anomalous and inconsistent and confusing from the layman's or angler's standpoint, our fish savants have placed such fresh-water fishes as the white perch, white bass, yellow bass, and the anadromous striped bass, in the same family classification as the exclusively salt-water jew fishes, groupers, hinds, mangrove snappers, the big black sea-basses of hundreds of pounds in weight, squirrel fishes, and scores of other fishes of the tropical and semi-tropical seas on both sides of the Continent. But the giant factor — anatomical similitude — must and should rule in ichthyological science, or the scientist and the layman would be all adrift in the confusion and conflict of vernacular names and unreliable systems of marshalling the denizens of the water.

Under the family title of *Serranidæ*, we find included the fresh-water fishes previously named, the first of these in its classified grade being the white perch. Singular as it may seem, this fish has but one common name,—a condition unrivalled by any other taken on hook and line; it is known from

---

## FOREST, LAKE, AND RIVER

---

Nova Scotia to South Carolina, the limits of its range coastwise, as the "white perch." It is the *Morone americana* of the books; the generic title has never been explained, and the derivation of the specific is patent to the reader, it being exclusively an American fish. Growing to a length of fourteen or fifteen inches, the average being about six or seven, the white perch, when taken from salt, brackish, or fresh waters, is one of our palate-tempting fishes; and, as a hook-and-line quarry, its fighting qualities compare favorably with the rock bass or pike-perch of similar size. Months ago, the writer recorded his experience with this silvered fish: "When taken on a skittered live minnow or a bright fly on a light rod, the white perch fights bravely. Large individuals are caught near the edges of the splatterdocks, and in the eddies around the piers of bridges spanning the creeks in the upper sections of tide-water, and at night on the incoming tide large ones are also taken with worm bait under the same conditions. They have been caught on crab bait in the Chesapeake Bay, in sixty feet of water, the minimum weight of a fish being one pound, and the maximum slightly over two pounds. I see nothing to commend in the method of fishing for perch with 'bowlines,' as is practised by many fishermen for the fingerlings which swarm in great

---

## THE SEA-BASSES

---

schools on the bars above and below the tide reaches; it takes a market basketful to make a family breakfast. I have seen and counted a catch of these minnow perch that aggregated thirteen hundred, taken by paternosters of many hooks, attached to three lines only."

The white perch abound in the lakes and streams of the St. John River, New Brunswick, and in the vicinity of Halifax, Nova Scotia, and it becomes landlocked in many waters of the New England States. They hibernate in the deep waters of the bays, and as soon as the ice breaks up, they ascend above tidal waters to feed, which they do greedily, on the spawn of the shad, on insects, small crabs, minnows, and schools of young eels that migrate to fresh waters in the early spring.

The white or silver bass, in some localities called the fresh-water sheep's-head, is ichthyologically the *Roccus chrysops*; the generic from rockfish, the old name of the striped bass, and the specific from two Greek words, "gold" and "eye," in reference to the shading upon the eye of the fish. It is very abundant in the Great Lakes, and at the mouths of rivers flowing into them, and is being very generally introduced into eastern waters. It is a fair fish on the rod, and its flesh is flaky and sweet; it seldom exceeds two pounds in weight.

---

## FOREST, LAKE, AND RIVER

---

The white bass is called the fresh-water striped bass, because of the dark horizontal stripes on its body, and anatomically differs only from the other species in the location of its teeth, in its broad and somewhat compressed body, and the greater number of soft rays in its anal fin, and the larger size of its scales.

The yellow bass (*Morone interrupta*, the specific name from *interruptus*, "interrupted," in reference to the longitudinal black lines on its body) is a fish of southwestern waters, and has not as yet been introduced into eastern waters.

Among the anadromous fishes, the striped bass (*Roccus lineatus*, specific name meaning "striped") stands pre-eminent with many anglers whose estimate of its knightly fighting powers places it as equal to the salmon, although it attempts no aërial flights in its efforts to escape the hook. In the spring and early days of summer, it enters streams, going far above tide-water, and under such conditions will take a lure voraciously; we have caught them forty miles above the flow of the tide on a bright fly, and the fight and capture in the comparatively shallow water, and swift flow of the current, was a blue-ribbon day to the lucky rodster. Generally, however, they are taken in greater quantities when feeding on shrimp at the edges of the grass in the



---

## THE SEA-BASSES

---

estuaries, or with crab bait in the lower brackish waters of the coast-rivers.

They are handsome, clipper-built fish, particularly when they do not exceed one or two pounds in weight, when they are called "school bass." As they grow in years, they become "aldermanic" in appearance, but do not lose their strenuous resistance to capture. As a table fish they excel, their flesh being firm, white, flaky, and of excellent flavor.

They may be recognized on sight by the olive-green color on the back, often brassy, with a silver sheen shining through the darker hues, by the seven or eight continuous (sometimes interrupted), blackish stripes, one of them being along the centre of the body. They range on the Atlantic Coast from New Brunswick to Florida, but are most common from Cape Cod to Cape May. In the waters of Maryland and those of Virginia emptying into the Chesapeake Bay, they grow to a large size. I have seen, on a market stall in Baltimore, four of these fish, the average weight of which reached nearly ninety pounds; and Professor G. Brown Goode, now deceased, but formerly Curator of the National Museum at Washington, stated that one weighing one hundred and twelve pounds was taken at Orleans, Massachusetts.

"NEATH wharves whose timbers  
run to waste."

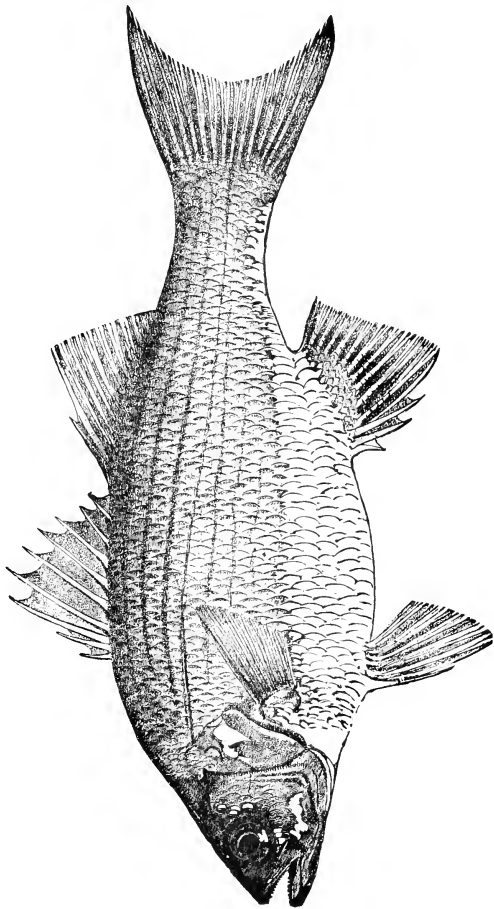




## WHITE PERCH

*Deep-lurking in the lonely lake,  
Or where the tidal rivers make  
Their ceaseless battle with the sea,  
And the salt breeze is frisky-free ;  
In ponds that keep an ocean-taste ;  
'Neath wharves, whose timbers run to waste,  
Or settle down in gray decay,  
Where eddies whirl in lazy play  
About the piers, or where, in reeds  
Half hid, the sluggish creek recedes,—  
In all these places thou art found,  
With speed and grace and beauty crowned,  
O Perch ! and ne'er was daintier fish  
To make a dash and make a dish,  
So firm thy flesh, and sweet and white —  
Oh ! who could e'er thy charms recite !  
Yet careless Fame, 't is passing strange,  
Has passed thee by. But this will change ;  
The day must come when anglers true  
Will give to thee the credit due.  
They fancy now thou art not game,  
And may even jeer thy name ;  
They'd know the fault was theirs, not thine,  
If the right lure were on their line,  
And then for thee they'd gladly search,  
And sing thy praise, O light White Perch !*

THE WHITE PENCIL BY G. C. FEMMEL. *Morone americana*







# *WHITE PERCH*

---

## *THE LANDLOCKED WHITE PERCH OF DEEP WATER LAKES*

---

MONG the game fish the white perch is rarely mentioned. Nevertheless, under right circumstances, he shows good qualities in fighting, and makes a great battle.

While these fish are caught in rivers, small ponds, and lakes where the water is brackish, in these localities they rarely attain much weight or size, and consequently are not much sought after. In the places mentioned, the early morning is the best fishing time. Shrimps are the most desirable bait if obtainable. Next in value are worms, pieces of fish, or small strings of pork.

Ascertain where the fish are rising, then get as near to the spot as possible, and without a sinker save, perhaps, one split shot, make repeated casts and strike quickly. Use a light rod and reel, and a single hook of medium size. If any of the small fry as live bait can be procured, the fish will

---

## FOREST, LAKE, AND RIVER

---

readily take them. Bright, small, artificial flies, also, can be tried. Late in the afternoon is likewise a good time for this kind of fishing.

In the large lakes, the white perch are found in deep water, where they are big, strong, and full of fight. A few may be taken on a trolling spinner only, but large numbers are captured while still fishing. A small sinker is placed on the line a little above the gut of the hook, the line allowed to reach bottom, and then reeled in about a foot, or pulled up this distance, if a hand line is made use of. The fisherman, keeping his bait moving a little, awaits a bite.

Live bait, minnows, chubs, etc., rank first as lures. Next in order comes a good fat worm.

During the latter part of August, a few years ago, I was bass fishing in one of the large Maine lakes. I used flies exclusively. Good catches had been taken, but the greater part, gently detached from the hook, were thrown again into the lake to grow larger and at some future time to furnish sport to other followers of Walton.

While resting on one of the charming bits of rocky green which add beauty to the waters, waiting for the fish to be done to a turn, I noticed in a little pool a tiny fish, darting gracefully about. I captured this specimen, a bright silver spark of

---

## *LANDLOCKED WHITE PERCH*

---

life not known to me. My boatman said it was an alewife, and added that, just at this season, plenty of them could be found at certain hours of the day in the eel pots at the other end of the lake, just below the dam.

Never had I seen such a silvery bait, or one which should be so readily taken. An ideal bait, indeed, save for extreme tenderness, and the difficulty of keeping it alive.

However, the next day, before starting out, quite a number were secured. Many died, in spite of my efforts to aërate and freshen the water in which they were placed. We rowed directly to a favorite ground, and selected a good position. It was eleven o'clock; the sky was clear and a gentle breeze was stirring the surface of the lake. My rod weighed about six ounces, and I used a fairly light reel, a strong single leader, and three single gut hooks in place of the usual flies.

The live bait was hooked directly through the head in front of the eyes. Many ripples about the boat, made by fish breaking, were noticed. The baits hardly touched the water before they were well taken. Each time I secured three fish, striking the first one well, and allowing him to swim about until the remaining hooks held a fish. Several boats were near us. I gave some of the

---

## FOREST, LAKE, AND RIVER

---

dead alewives to a fisherman who was near, and he and I were the only ones whom luck smiled upon.

The alewives were soon used up; but now the perch were in good biting mood, and worms, pieces of fish or pork, etc., were taken well, the large body of fish seeming to keep between the boats, where the new bait, I honestly believe, attracted and held them.

Ten or twelve bass were caught also, the largest weighing an even four pounds.

Every fish taken was immediately killed. This, in my opinion, should always be done, as it saves any possible suffering, keeps the fish in better condition, and avoids the possibility of getting ugly, ill-healing scratches from the fins, particularly with perch, for a prick from their fins is at times apt to prove poisonous.

White perch are delicious eating, and can be cooked in a variety of ways.

With light tackle, rod, reel, leader, and hooks, live bait, especially a bright one like the little alewife, most excellent sport can be obtained, and white perch usually found in the deep waters of the large lakes can be lured to the surface and tempted into sharp biting moods.

With the remembrance of that morning and its

---

## *LANDLOCKED WHITE PERCH*

---

exciting sport, I would plead for him that his name be added to the list of game fish, his strong rushes for liberty, his sharp biting, his good resistance, surely rendering him worthy of recognition. I trust that this description of the method of capture may be of some value to my fellow-sportsman, and will be of interest to them at some future time.

*“It rests an eagle,  
wearyed with its flight.”*







*A KNIGHT OF*  

---

*NEPTUNE*  

---

*I saw him resting midst the leaping foam,  
As rests an eagle, wearied with his flight.  
Perchance the ocean wide he called his home ;  
The starlight way, his jewelled crown, at night.*

*When thunders roared, and flamed the lightning's shaft,  
It taugth alone, a power, like sabre keen  
In flashings bright ; both gems of highest craft —  
One, men did make ; one, born of waters green.*

*Changeful is he as borealis light,  
A noble fish ; in stripings, richly grand,  
In romping play, or eager for the fight,  
Mid billows lashing froth that strews the sand.*

*Anon the hidden hook he fiercely strikes,  
Then rage proclaims, while speeding o'er the plain  
Of aqueous blue ; then waken all dislikes,  
He, sulking, frets or battle gives again.*



## *THE STRIPED BASS*

---

HE striped bass, apart from the fact that it is one of our most prolific food-fishes, is one of the most gamy fish that swims in the sea. Indeed, as good an authority as Mr. Scott considers casting for striped bass as "outranking any angling in the world" and superior to fly fishing for salmon. As a food-fish it has always been highly esteemed. As far back as the days of the ancient Greeks, Arce-tratus speaks of this fish as an "Offspring of the Gods."

It belongs to the same family as the white perch, and in the north is called the striped bass, while in the south it is commonly known as the rock or rockfish. It is found almost universally in the Atlantic, from New Brunswick to eastern Florida, and in nearly all the large rivers which empty into this latitude. It is also found on the Pacific coast opposite the State of California, but more particularly in San Francisco Bay and its tributaries, the fish having been introduced into the Pacific through the efforts of the United States Fish Commission.

---

## FOREST, LAKE, AND RIVER

---

It is particularly abundant from New York to North Carolina. There are a few in the St. John's River in Florida, and they are found occasionally on the northern shores of the Gulf of Mexico. They run up several of our rivers, the Mississippi as far as St. Louis, and nearly all the rivers of the Southern States; in the Hudson, as far as Albany, and in the Connecticut, as far as Hartford. In Canada, they abound along the shores of New Brunswick and Nova Scotia, and are found up the St. Lawrence River as far as Quebec, and there is a record of one caught in the Niagara River. They are, however, most abundant about Cape Hatteras and in the Delaware and Chesapeake Bay regions.

Its form, size, and markings make it readily distinguishable from other fishes. The color of its body is a light silvery-green above, white below, with seven or eight blackish stripes along the sides.

Although practically born and bred at sea, those taken in fresh-water rivers are the most choice, most rivers imparting a flavor to them, or improving their condition, in a similar manner to that observed with oysters. They are taken in large quantities for the market by means of seines, gill nets, pound nets, and lines, the annual value of the catch being about \$300,000. Very large catches of striped bass have been reported, — for example,

---

## THE STRIPED BASS

---

one fisherman caught, near Fire Island, New York, in eight days over 10,000 pounds, averaging from 1000 to 1500 pounds per day. One New London fisherman caught 185, in three hours, in 1875, with a single hook and line. Near Norfolk, Virginia, 1500 have been taken in a single seine, and there is a record of 600 taken in this manner, averaging eighty pounds each; and there is no evidence to show they are decreasing in number.

The best season for fishing for the striped bass is during the months of March, April, and May, although they are said to be the best eating in September, October, and November. They stay in our waters throughout the year, although disliking a temperature above 65°, and they do not enter into a state of torpidity in winter.

They pass most of their time in salt water, but in the spring ascend the rivers to spawn; but their eggs are often deposited quite near the ocean in brackish or salt water. The number that may be deposited by a single fish is enormous. A fish weighing only twelve pounds has been known to deposit 1,280,000 good eggs. The eggs are free, transparent, and semi-buoyant, about one-seventh of an inch in diameter, and number about 24,000 to the quart. At a temperature of 58° F., they will hatch out in about three days. They spawn

---

## FOREST, LAKE, AND RIVER

---

late in the spring, and early in the summer ; about May, along the New Jersey coast, and in June, in New Brunswick. The fry grow very rapidly. A June fry, one inch long, measured four and one-half inches in October ; the following January, he will be six to eight inches long ; when a year old, he will weigh one-half pound to a pound, and in the following October, will weigh four to six pounds. Their average weight is twenty pounds. A good-shaped striped bass, three feet long, should weigh eighteen pounds. They sometimes attain a weight of a hundred pounds and over. The largest on record was taken at Orleans, Massachusetts, weighing a hundred and twelve pounds, and was six feet long.

The striped bass is a most voracious feeder, their favorite food being the small minnows living in the rivers. They have a habit of "cornering" a school of minnows, and while devouring them, keep them in a confined space. The small-sized fish (five to eight pounds) are considered the best eating, and they are best when broiled ; but the larger ones, cut transversely, and boiled, are very nice ; while the smaller ones are excellent pan fish.

Frank Forrester calls the striped bass, "A gallant fish and a bold fighter," and first among the coast game fishes of the North and Middle States. The

---

## THE STRIPED BASS

---

methods of capturing the striped bass, and baits used, are very numerous. The small boy uses the shrimp and clam in the brackish creek; the artificial fly is used on the Potomac; trolls in the tide-ways; tolls with menhaden bait from the stages at Cuttyhunk; and seines and nets by the market fishermen off shore.

Yachtsmen occasionally enjoy immense sport while bluefishing, and hook a striped bass now and then. I do not enjoy bluefishing with a hand line, — the usual method, — but use a stiff salmon rod and reel, and when a fish is hooked, bring the yacht up into the wind, and play the fish like a salmon. In this manner I have often caught striped bass in the vicinity of Buzzard's Bay and the Vineyard Sound, and it affords royal sport. They will take the eel-skin very readily, or a troll baited with pieces of menhaden, or simply a piece of pork. Weight the line heavily, and let the lead bob along on the bottom; a short line with the baited hook attached to the line about four to six feet from the sinker is a very alluring method. The almost universal method of fishing for striped bass is casting menhaden bait, and it is about the only way sportsmen fish for them. Of this method Mr. Scott says: "Casting menhaden bait for striped bass from the rocky shores of the bays, estuaries, and

---

## FOREST, LAKE, AND RIVER

---

islands along the Atlantic coast constitutes the highest branch of American angling. It is indeed questionable, — when considering all the elements which contribute to the sum total of sport in angling, — whether this method of fishing for striped bass is not superior to fly fishing for salmon, and if so, it outranks any angling in the world. The method is eminently American, and characteristic of the modern angler by its energy of style and the exercise and activity necessary to success.”

The rods used in casting are not more than nine feet in length, weighing twelve to fourteen ounces, the lines made of linen or hemp two hundred to three hundred yards long, and of great strength and elasticity. The reels, which play a most important part, should be multipliers, beautifully and skilfully made, the best being with jewel-mounted wheels, and delicately adjusted balance cranks. Toll (“chum”) bait of chopped menhaden is the principal lure, and is cast upon the water until an oily surface or “slick” is produced, which may extend half a mile from the shore. This attracts the fish, which swims towards the angler, now and then stopping to seize a floating bit of fish. When they come within reach of the angler, a strong hook, delicately baited with a bit of menhaden, is quickly offered them. The method of making the



---

## THE STRIPED BASS

---

cast is better described in the language of Mr. Hallock, who says :

“ With a dexterity that practice alone can assume, the angler carefully sways the rod until the squid describes its slowly moving circle around the head, and then, by a quick, inexplicable movement causes it to dart like an arrow straight out, far over the sea, while the reel whizzes and whirls till it seems to strike fire, and then you wait for the cessation of the hum, which indicates that the squid has dropped full one hundred feet, perhaps one hundred and fifty feet, away. The pleasure and excitement of capture are intense, and the struggle lasts for an hour, when the fish is large.”

At Cuttyhunk, large stages are built projecting from the rocks into the sound and bay ; from these anglers cast their squids and play their fish. There are a large number of these stands at Cuttyhunk. The club members draw lots for them, each one being numbered or named. The stand belongs to the member drawing it for that day, to be used by himself, his guests, or invited members.

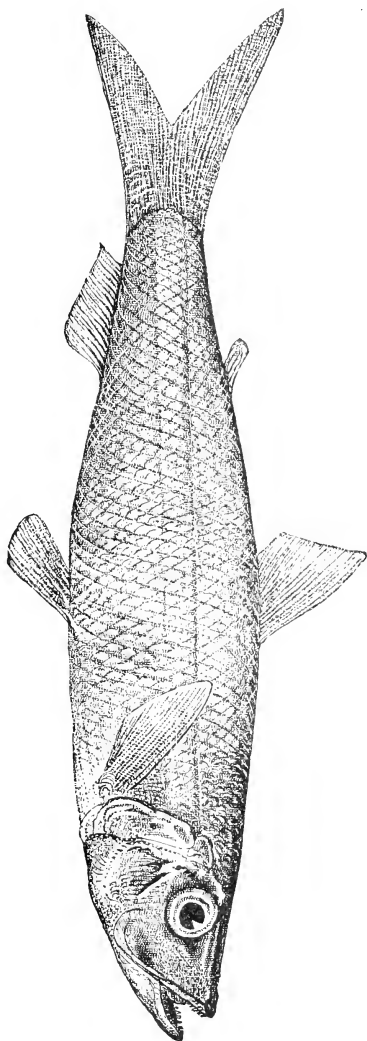
The striped bass, like his cousin the black bass, is an early bird, and during the season for casting the best fishing begins at three A. M.



*THE SMELTS*

---







## THE SMELTS

HIS delicious table fish is in its prime in New England waters, not only in flavor of flesh, but in numbers. Their excellence as food is easily understood, for they are close relatives to the salmon family, having, like those fishes, a fatty or adipose fin which is present on all species of smelt.

Taking the world at large, the smelts consist of about ten genera, and perhaps a dozen species, all of which, however, are included in one family, the *Argentinidæ*, the typical fish being the Eulachon or candle-fish of the northwestern waters of the Pacific, from Oregon to Alaska (inclusive), which ascends streams in the spring in almost incredible numbers. When eaten fresh from the water, it is said to surpass in delicacy of flesh all other fish, being far superior, in that respect, to any of the salmon family. The flesh is extremely oily, but the oil flavor is very attractive to the palate. So great is this oily constituent, that it has a medical and commercial, as well as a domestic value, being not only used as a substitute for cod-liver

---

## FOREST, LAKE, AND RIVER

---

oil, but the Alaskans use it, when dried, in place of lamps or candles, by applying a match to its tail and sticking the head into a crude candlestick. It burns freely, and gives sufficient light for domestic purposes, — hence its name, “candle-fish.”

There are four species of smelts that are found in the waters of the northern States, two of which are permanently landlocked in New England waters. The most numerous of the anadromous forms is the capelin or noddie, which is more abundant north of Cape Cod than elsewhere; the eggs of those that visit the Arctic shores are washed upon the beaches in great quantities, and when they are hatching, it is said, “the beach becomes a quivering mass of eggs and sand.” This species is the *Mallotus villosus*, the generic name being from the Greek, “villous,” and the specific from the Latin, *villosus*, “hairy.” When found in New England waters, it may be known by the dusky olive color of the back, and the grayish silver of its sides and belly. The skin on the head and the rays of the paired fins are thickly strewn with fine granules, and the gill-covers are dotted and silvery.

The smelt of the New England markets is known locally as the common or “American



---

## THE SMELTS

---

smelt." It ranges along our Atlantic coast from Virginia northward to the Gulf of St. Lawrence, entering streams and frequently becoming landlocked. It is very abundant in Lakes Champlain and Memphremagog, and is technically known as *Osmerus mordax*, the generic title being from the Greek, signifying "odorous," the Greek word being equivalent to the English "smelt." The specific name is from the Latin, *mordax*, "biting," no doubt because of the bait-taking greediness of this fish, as well as the formation of its teeth. It has a large head and mouth; strong fang-like teeth on the tongue and front part of the roof of the mouth; a projecting snout, the dorsal fin being situated nearer the caudal than usual. Its coloration is transparent green above, and silvery on the sides.

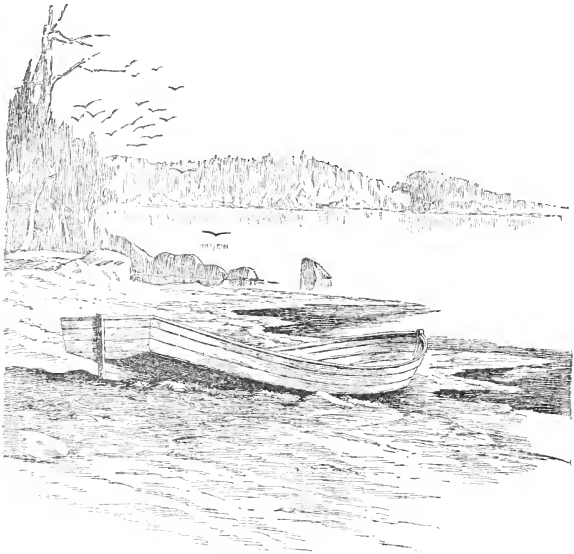
The other two species are landlocked in New England waters, and are merely subspecific forms of the "American smelt" (*Osmerus mordax*). One of them is known as the "Wilton smelt," and is found in a pond of that name, located in Kennebec County, Maine. It is a smaller fish than the common smelt, and has a larger eye, no other structural differences or habitat have as yet been discovered. The second of these exclusively landlocked smelts exist in Cobessicotic Lake, Kenne-

---

## *FOREST, LAKE, AND RIVER*

---

bec County, Maine, the name of the lake being that of the fish, and Dr. Abbott, an ardent naturalist, conferring the specific title. It is a stouter fish with a smaller eye than those previously described.



## S M E L T I N G   T I M E

*Faintly the dark is tinged with Dawn,  
Softly the River, misty-gray,  
Swells with the slow tide-waters, drawn  
Into its current from the bay.*

*The reeds and stout spear-grasses, brave,  
Bend to the flood, which, crashing on,  
Crushes them down with ruthless wave;  
But they will rise, when the flood is gone.*

*Now, here and there, faint gleams — as rare  
As faery stars in dreamland seen —  
Dart from the banks into mid-air,  
Mocking the mists that hang between;*

*And soon the Sun, the Mighty One,  
Awakes and makes the vapors flee.  
Oh! Joy of Morn! We feel re-born  
To a Life more full and fresh and free.*

*Sink fast the anchors of our skiff;  
Quick will we get our lines in trim,  
Our spirits keyed by a keen salt whiff  
Blown in from sea in the distance dim.*

*Now starts the sport. Beyond our wish,  
Our basket soon with silver brims,  
That little, quivering, darting fish,  
The daintiest for a dish that swims.*

---

## FOREST, LAKE, AND RIVER

---

*In stream or lake or pond or sea —  
Alive, how lovely! What a grace  
They show; though massed, yet moving free  
As in a happy, headlong race*

*Of molten silver melody;  
While far and near the water's face  
Shines to their coming joyously,  
As the Sun smiles on their gay chase.*

*And none dare say, who in the mouth  
Has ever felt that silver melt,  
There swims by East, West, North, or South,  
A sweeter morsel than a smelt.*

## CATCHING THE SMELT

---

**T**HE old notion that smelting is best done when the frosty air of the fall and winter months prevails, is, in my opinion, a wrong one. True, at this time, these little fish bite well and sharply, but their taking is always a question of the proper bait and a certain amount of skill.

In cold weather, short bamboo rods are used, with only a small amount of line, and a spreader on which are fastened two hooks. Shrimp, angle and sea worms are the best baits. If the fish are excited into a biting mood, small flies are taken readily. A river where the effect of tide is marked is a favorite ground. The hour should be at the first of the flood or the last of the ebb.

In July and August, very early in the morning is the right time for smelting. Now the fish are hungry and take the baits mentioned quite fairly, although not greedily, so that it is better to use a long rod. The small shrimps appear to be very taking. No sinker is required, as the spreader

---

## FOREST, LAKE, AND RIVER

---

sinks the line deep enough and holds it steadily. Just at the side of the river channel, and at the edge of the grasses, is the best fishing-place.

At this time of year, October, it is pleasant work, and I have taken as many fish at this season as I have later on in an atmosphere crisp and tingling with the touch of Jack Frost's wand.

Young pollock, small mackerel, little herring, and now and then a butter-fish are caught on the shrimp bait.

One word as regards the keeping of the shrimp : A box—the sides of which are wire—and a generous supply of corn-meal is the best method of protecting them. They should be alive when placed on the hook, and ought to be pushed well on, so that the barb holds them securely. A number six or five hook can be employed, as the mouths of smelt are large. If a keener sport is wished for, smaller hooks can be made use of. The sea-worm makes a good bait. Small pieces of this are used. Angle-worms, if obtainable, are also excellent.

A pier at the entrance of a river is a spot of vantage to fish from, but a boat is better, as the position can be changed from time to time.

---

## CATCHING THE SMELT

---

A quick, but not too forcible jerk is sufficient to strike the fish. As soon as this is done, the ones taken are lifted into the boat or upon the wharf. The gills are tender, and although the little fellows are inclined to play well, they should not be given the chance. As the friends of the fisherman can always use to good advantage the fish given to them, the question of numbers can be readily settled.

After the sun has risen well, and the water is slack, the fish stop biting freely. Sometimes, however, on a rainy day, if the hour is right, a good catch can be secured.

As the weather grows colder, the smelts go farther and farther up the rivers, so that fishing can be done along the banks from bridges and piers. Quickness is required in catching a large number. It is well to keep the bait moving and at first to use two kinds of bait. When one is found to be the favorite, then make both baits the same. When the fish are taken, they thrash themselves about in quivering, and their scales are easily detached. It is well to have some sort of a basket near at hand, or a box into which the fish can be placed, thus avoiding the necessity of much scrubbing in order to eradicate the sticky loose scales that are thrown about.

---

## FOREST, LAKE, AND RIVER

---

The fish are too small to make a long fight, and too feeble to require the reel ; but it is pretty sport when the biting is lively.

Most delicious eating are smelts if properly prepared : split and broiled, served with butter, salt, and pepper seems to me the best method. If fried, after being cleaned, scaled, and dried, they should be lightly rolled in powdered cracker crumbs or meal and turned rapidly in hot fat. The usual tartar sauce is not needed, and only obscures the inherent delicate flavor they possess.

There is a species of smelts that are landlocked. These become food for trout, landlocked salmon, and other varieties of game fish. I have never succeeded in catching one on a hook and line. They can, however, be taken at the proper season by netting, and are most delicate eating.

The smelts are sought after rather more on account of their qualities as food, than for the sport they give, yet their capture constitutes delicate fishing and makes an agreeable change for the angler.

In the summer months, especially, one must accommodate himself to their hour of feeding, which is, as a rule, early in the morning, soon after sunrise. Then with good bait, a light rod, a spreader with two hooks, good catches can



---

## *CATCHING THE SMELT*

---

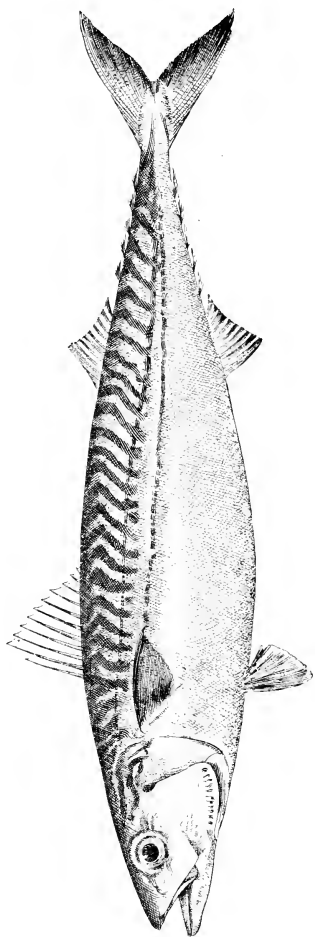
be made. The methods mentioned here apply equally well to the fishing later in the season, with the exception that then two poles can be handled, which should be shorter and stiffer, as the fish are then more greedy and bite more keenly.



*THE MACKERELS*

---

COMMON MACKEREL. *Scomber scombrus*





## THE MACKERELS

---

**N**EXT to the herrings, the mackerels are the most important food-fishes of the Atlantic coast waters, and yield not only an ample income, although an extremely variable one, to the market fishermen, but exciting sport to the rod-and-line angler who essays them with fly, spinner, or natural bait.

In the world's waters there are about twelve genera and sixty species of mackerel, or more properly "mackerel-like fishes," but it is our province to treat only of the family *Scombridæ*, particularly those fishes included in it that visit the shores of New England and the Canadian coast. Of these, the common mackerel and the chub mackerel are the most important, although the frigate mackerel, two species of tunnies, the bonito, the Spanish mackerel, and the kingfish or cero (*Scomberomorus cavalla*) are occasional visitors to our coast as far north as Cape Cod.

The common mackerel (*Scomber scombrus*, from the Greek, *scomber*, that being the ancient name

---

## FOREST, LAKE, AND RIVER

---

for the mackerel) may be known by the little finlets on the lower and upper edges of the peduncle (the fleshy part of the tail) and by a small keel on either side of it. It has a large mouth which is armed with small slender teeth on each jaw, and the scales are extremely minute, numbering several hundred along the central and horizontal line of the body. The color is dark, somewhat steely-blue above the median line and white below, with about thirty-five dark, vertical, wavy streaks along the back.

Small mackerel have several names among commercial fisherman: the smallest caught, about five or six inches in length, and supposed to be five to seven months old, are called "spikes;" those under nine inches in length, and presumably two years old, are known as "tinkers," and the name of "blinkers" is applied to those that are intermediate in size and age. A full grown mackerel is so called when it reaches the age of four years, and a length of seventeen or eighteen inches; but specimens have been taken over twenty inches in length, having a weight of nearly four pounds; the average length of the marketed fish, however, seldom exceeds twelve inches.

The migratory movements of the mackerel, and the causes thereof, are not clearly understood; but



---

## THE MACKERELS

---

they are, no doubt, regulated by the potent factors of food supply, proper temperature of water, and favorable conditions for spawning. They go in schools to an enormous extent, having been seen in 1848 covering an area of half a mile in width, and twenty miles in length; another school noticed in 1877, near Block Island, was estimated to contain one million of barrels; the fish were swimming at the surface, or at varying depths beneath it.

Another varietal form of the mackerels is popularly known as the chub mackerel, tinker mackerel, Easter mackerel, and thimble-eyed mackerel, and ichthyologically recognized as *Scomber colias* (the specific being an old name for one of the mackerels). It is smaller than the common mackerel, and said to be inferior to it as a table fish. This fish suddenly disappeared from the New England coast for many years, during the early part of the last century, and is now very irregular in its appearance. It may be differentiated from the common mackerel by a black axillary spot, and by the round dusky spots or cloudings on the belly, none of which occur in the common mackerel.

Either of the above-named fishes will take the anglers' lines with avidity, but a wired gimp snood

---

## FOREST, LAKE, AND RIVER

---

is to be used. Any of the natural baits will be attractive; a piece of porgy or menhaden, clams or a bit of shedder crab, will entice them, and the bait will be taken at the moment it touches the water. It is very exciting and exhilarating when trolling with light black bass tackle among a thick school of mackerel using a squid of feathers, a spinner, or casting among them a light fly, preferably a white miller, which seems to have a special attraction for them.

The other fishes of the mackerel family seldom come close to the ocean shore, or visit the estuaries, and when caught by the fishermen, it is usually effected by trolling with metal squids or live baits.

The frigate mackerel (*Auxis thazara*) rarely ranges as far north as Cape Cod, but when it does come, it is in vast schools or shoals; yet, being a coarse fish and of poor value as food, it is seldom pursued.

Two of the so-called "little tunnies" (*Gymnosarda*) sometimes get as far north as Cape Cod; but they may be classed with the frigate mackerel, being equally valueless as food. The great tunny, the "tuna" of the Pacific coast, is occasionally found near Newfoundland; but it is essentially a fish of the semi-tropical seas. The albacore is

---

## THE MACKERELS

---

also a rare fish, but an occasional visitor to our New England coast; it is of little value as food, the flesh being coarse and oily, and far inferior to that of the tunny.

The bonito (*Sarda sarda*) is essentially a fish of the open ocean, but approaches the shores of New England for the purpose of feeding or spawning, and, under this condition, affords excellent sport to those who delight in trolling for them. It is a hard fighter, and game unto death. They range as far north as Cape Cod, and are, as a rule, very abundant, growing to a size of about three feet, and weighing upwards of fifteen pounds. Bluefish trolling tackle is used to capture them.

The Spanish mackerel (*Scomberomorus maculatus*, the generic name signifying that the fish is closely allied to the mackerel, and the specific from the Latin, *maculatus*, "spotted") is one of the finest table fish of the Atlantic waters. It ranges as far north as Cape Ann, and is usually captured by trolling, a dark, mottled, mother-of-pearl squid seeming to be the most attractive for them. They may be recognized on sight by their bluish backs, silvery sides, on which are many elliptical spots of dull orange color; two rows of these spots are below the median line, and one above it. It has a pointed head and the tail fin is blackish.



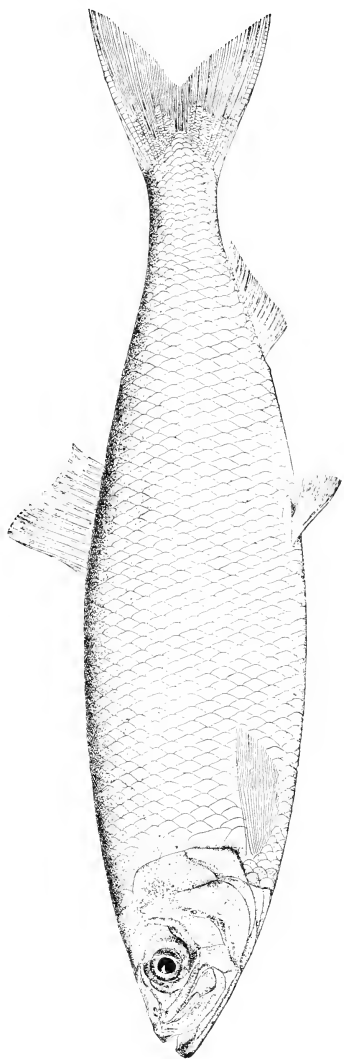
*THE HERRINGS—*

---

*THE SHAD*

---

THE COMMON HERRING. *Clupea harengus*







## THE HERRINGS

---

**C**OMMERCIALLY, the herrings are the most important of the food-fishes, and, in the economy of nature, seem to have been created for one purpose only — to be eaten. We find them upon the tables of the rich and poor in nearly every quarter of the globe, and countless myriads of them serve for food for immense shoals of marauding bluefish, cod, pollock, striped bass, and weakfish, their most savage foes, but which, however, are more valued as table fish.

Thus we see a compensatory distribution by natural laws, ceaseless in operation, of which man receives the benefit. Remove the herring from the waters of the earth, and our choicest table fish would disappear from the market stalls.

Again, it must not be forgotten that every member of this large family, with its allied congeners, — such as the tarpon and the moon-eyes, — will respond to the angler's call if fished for with proper lures and under favorable conditions.

The herrings (*Clupeidæ*, from the Latin, *clupea*, "a herring") are more numerous, individually, than in any other family of fishes. Billions of

---

## FOREST, LAKE, AND RIVER

---

them are caught annually by the net fishermen of the North Sea and the western Atlantic Ocean, and not less than fifty millions of pounds are taken annually in favorable years on the eastern coast of the United States. Extravagant as these estimates appear to be, they will readily be accepted when we consider that two or three millions of herrings are contained in one shoal, covering six square miles, and much larger schools are on record.

There are not less than thirty genera and one hundred and fifty species of herrings, inhabiting the waters of the world, usually swimming in large shoals or schools, many species ascending fresh-water streams, and some of them remaining there from choice. Of this large family but few, however, can be called strictly New England or Canadian fishes; eleven species only, including the shad and the anchovies (called locally sardines), can be so designated. The common or commercial herring is excluded from the list, as it is a sea or pelagic fish, spawning in the ocean. Those that visit the brackish waters of the Northern Atlantic and ascend above tide-water, will now be taken up and briefly described *seriatim*.

First, we find the round herring (*Etrumeus sardina*, the generic name from the Japanese, and *sardina*, the specific, "a diminutive shad"). This fish was

---

## THE HERRINGS

---

first found and classified by Mitchell, the ichthyologist, who called it the "New York shadine." It ranges from Cape Cod to Texas, and is often taken on hook and line by anglers for weakfish in eastern salt waters. Its greatest length appears to be about eleven to twelve inches, and it can be recognized by its very small fins and mouth, and large eyes, its olive color on the upper part of the body and silvery sides and belly, and by the absence of any distinct lateral or median line.

The most familiar species of the herrings to the angler in brackish waters or river channels are the alewives, all varieties of which are indiscriminately called herrings by the ordinary fisherman. Of these alewives (all of which, but one, visit fresh waters to feed or spawn), there are four varieties that are found in Eastern Canadian and New England waters. They are gathered together under the generic name of *Pomolobus*, — from two Greek words signifying "opercle" (or gill-cover) and "lobe," referring to the construction of the gill-covers. Under this classification we find first, the skipjack or blue herring (*Pomolobus chrysochloris*, the specific name from the Greek, "gold" and green). As its name implies, it is a very handsome fish, but valueless as food, for it is very bony and the flesh flavorless. We only mention it here as some Canadian anglers may find

---

## FOREST, LAKE, AND RIVER

---

it in the upper portions of Lake Michigan, to which it has found its way from the Mississippi Valley, where it is very abundant.

In the brackish waters of the more southern of the New England States, a species may be found which is known as the hickory shad, tailor herring, fall herring, or mallowacca, technically classed as *Pomolobus mediocris*, "mediocre." Its name implies its value, for it is indifferently coarse in flesh, and does not ascend rivers to spawn.

The most numerous of all the herrings that ascend the fresh waters of New England for spawning purposes, are known locally in various sections as alewife, branch herring, gaspereau, wall-eyed herring, big-eyed herring, ellwife, and technically as *Pomolobus pseudoharengus*, from the Greek, "false," and *harengus*, "herring." These fish are very abundant, entering fresh-water streams to spawn, and are landlocked in Lake Ontario, where great numbers sometimes die in early summer. They may be distinguished by their large eye, high fin on the back (a little higher than long), the indistinct dark stripes along the rows of scales, a blackish spot behind the gill-cover, and by their coloration, which is bluish above and silvery on the sides.

The glut herring (*Pomolobus æstivalis*, "of the summer") is also known as the blue-back, black-

---

## THE HERRINGS

---

back, summer herring, kyack, saw-belly, and glut herring. It is not very abundant in New England waters and is not valued as a food or rod fish.

The shad is the most prominent and the most important of the herrings from a commercial standpoint, except the common herring, which is sold in the worldwide markets. Many and varied names are applied to this delicate table fish; most generally it is known as the American shad, the common shad, the North River shad, the Potomac shad. Technically it is known as *Alosa sapidissima*, the generic name being from the Saxon, *allis*, which is the old name of the European shad, and the specific, from the Latin, "most delicious."

This fish is very closely allied to the alewives previously described, from which, however, it may be distinguished by the lower jaw fitting into a notch in the tip of the upper, by the entire absence of teeth, its deep cheeks, and by its body also being deeper than that of the other herrings. It has a dark spot behind the large gill-cover, and its general coloration is bluish above the lateral line, and white and silvery below.

The range of the common shad is a very wide one, as it is found in the Gulf of Mexico eastward from the mouth of the Alabama River, and thence along the Atlantic coast north to the Mirimachi

---

## FOREST, LAKE, AND RIVER

---

River, emptying into Bay Chaleur, Canada. In the rivers which empty into the gulf and the ocean, in this large range of waters, the shad may be found from December to July, possibly later, engaged in depositing its spawn in the upper and highly aerated tributaries of the larger streams.

This fish, although not looked upon by the general angler as one subject to his lures, has been, and doubtless can readily be caught in all suitable waters, the rodster selecting a relatively quiet pool at the foot of a heavy and tumultuous rapid; in such situations, the shad seem to rest before breasting the strong current. They have been taken with various kinds of lures, — the artificial fly, the live minnow, the garden worm, and the white grub. The most propitious time to catch them is in the gloaming, as these fish, in the upper and shallow waters, lie quiet during the day, and pass upward to their selected spawning grounds only during the night.

## THE LAMENT

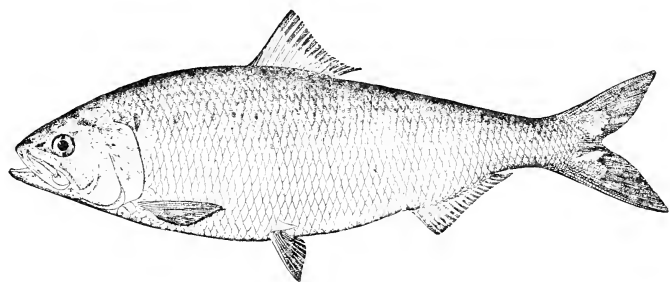
*Alas! Alas, where once the woodland wild  
Soft breezes wafting, perfumed all the air,  
Wooing the waters mirroring Heaven there  
All gently like the friendship of a child,  
Loving to loiter in pools formed for love,  
The noble shad his wanton wandering stayed,  
His silver flank against the moss-green shade  
Gleamed white below, and blue-gray from above.*

*Alas, weird streams, with forest spells elate,  
How have ye fallen from your high estate!  
Your flowings marred by mills that moan or roar,  
Huge, bizarre shapings, with projecting arms  
That whirr like mad, while turgid dam's downpour  
Doth drown the loving sigh the wind was wont to give.*



THE SHALLOWS *Aosa rapidissima*







## *THE SHAD*

---

FROM a commercial standpoint, the shad is a highly important fish. During the winter, it is found only in the ocean; in the spring, in the estuaries where, with gill nets, it is readily captured. The shad lays its ova in the sands above tidal water, and soon after returns to salt water. American shad are superior to those of Europe, both in quality and size. The shad belongs to the migratory class of fishes, being found in the coastal waters during a certain portion of the year only. In their annual migration, they reach the waters of New England about May first. They remain in the rivers for several months, and then disappear.

In New England, the Connecticut River is the principal shad stream, with the exception of the Kennebec River. In my earlier days, the Thames River, an estuary of Long Island Sound, extending northward to Norwich, and there receiving the waters of the Shetucket and Yantic Rivers, was a most famous stream, and certainly the fish were of a delicious quality.

---

## FOREST, LAKE, AND RIVER

---

One fact has been found true in all shad rivers, that, whenever a high dam or other obstruction has been erected across the stream, fisheries above that point have ceased immediately, while those below have flourished for a time, and then declined. Another important reason that has driven the fish away, is that below the dams the spawning areas have been greatly impaired by chemicals, sawdust, and refuse from the mills. Freshets, too, bring down masses of earth and other débris, and cover up the spawning grounds.

Again, extensive fisheries near the coast have caused a concentration at points where shipping facilities exist, and the shad have been cut off from reaching their spawning grounds.

The males arrive several days before the females, and it is for this reason that roes are scarce, and are not readily obtained until the last third of the season.

Shad would have ceased to exist utterly, I believe, had it not been for patient, persistent work of gentlemen connected with the United States Fish Commission, who finally succeeded in raising them artificially, and, by stocking the streams annually, enabling the lovers of this most dainty and palatable fish to enjoy their full share. To Seth Green, primarily, is due the credit for successful propagation

---

## THE SHAD

---

of the shad artificially. He was the first American fish-culturist to succeed in doing so.

Nets of various kinds are used in the capture of the shad. Some twenty years ago a Scotchman who worked in one of the paper mills at Holyoke, Massachusetts, demonstrated the fact that shad would rise and take the fly. May was the month, and at this time the shad were on the run. Small flies were better than large ones. The mouth of the shad is tender, and it is with difficulty that they can be taken to the boat, where they require a long-handled net. The sport was most novel and interesting. The fish were fairly large. It was of common occurrence to rise a three-pounder and once in a while a five-pounder. To give an idea of the number of shad that frequented this particular body of water at the time mentioned, the largest haul on record showed some thirty-eight hundred fish at one sweep, and often two thousand were taken. This made the business most profitable. They were sold for ten cents, or less, apiece. Unfortunately these days have long gone by, and the angler of the present one would, I fear, have but scant success, if any.

However, there are probably plenty of places where fly fishing can be tried. A light rod,

---

## *FOREST, LAKE, AND RIVER*

---

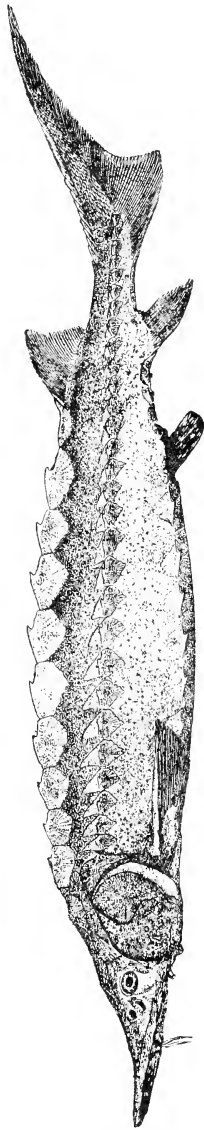
plenty of fine line, a light reel that works readily and rapidly, small flies, and especially the yellow May, would, where the fish are plenty, and at the right time of day and season, furnish sport well worth seeking.

*THE MINOR FISHES*

---

THE SHARP-NOSE STURGEON. *Acipenser sturio*







## *THE STURGEONS*

---

HERE are about twenty different species of sturgeons distributed in European, Asiatic, and American waters; of these six are native to North America, but only three are found in New England and Eastern Canada. The first of these is known as the common or commercial sturgeon (*Acipenser sturio*). It has rather a sharp nose, nearly as long as its head, with barbels or "feelers" about midway between the mouth and tip of snout. Its color is grayish olive above the lateral line, lighter or paler below it. It is extremely common on the Atlantic coast, and ascends the rivers to spawn and feed.

The second form is the lake sturgeon (*Acipenser rubicundus*) locally known as the "Ohio sturgeon," "stone sturgeon," "rock sturgeon," and "red sturgeon." It is the common fresh-water sturgeon of the lakes and streams of the Mississippi Valley and of the Great Lakes, and does not, as a rule, descend to the sea. It seldom grows larger than six feet, nor exceeds one hundred

---

## FOREST, LAKE, AND RIVER

---

pounds in weight. It is of a dark olive color above, and paler or reddish on the sides, and often irregular, blackish spots appear on the body. In the young fish, the snout is long and slender, which, however, becomes blunt with age, when it is considerably shorter than the head. It may be also recognized, by the angler layman, by the many rows of spines on the skin.

The third form is the short-nosed sturgeon (*Acipenser brevirostris*), which ranges from Cape Cod to Florida, but is very rare in New England waters. It is similar in color to the two species above-named, and its nose is very short and obtuse, about one-quarter the length of the head. The shields or bony plates covering the body are smoothish, and rather larger than those of other species of American sturgeon, and the last one on the back is very small, less than one-half the size of the one before it.

It is possible that the shovel-nosed or white sturgeon (*Scaphirhynchus platorhynchus*, "broad snout") has been or will be found in the waters of Ontario, as it is quite common in the streams and lakes of the Mississippi Valley. Its body is very long, tapering into a slender, depressed tail with a filament extending beyond the tail fin, which, however, sometimes disappears in the adult

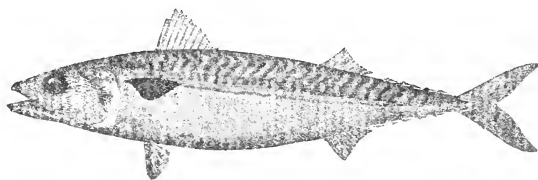
---

## THE STURGEONS

---

fish. The snout is broad, depressed, and shaped like a shovel, and the general color of the fish is a pale olive; its length seldom exceeds five feet.

Sturgeon are not considered by anglers as subject to capture on rod and line; but instances have occurred when the fish have been so taken: one on the Pacific coast on minnow bait; the second in Lake Champlain on the same lure; and a third by H. R. Clark, of New Jersey, when fishing with the fly for black bass in the St. Lawrence River. Although the above instances seem to be exceptional, there is no question as to the possibility of taking sturgeon on rod and line, which fact offers a new phase of angling not to be compared to tarpon or striped bass fishing, but a sport that will give pleasure to those who delight in handling and killing big fish, particularly when the monsters make long and strong surges and leap from the water, as the sturgeon is reported to do.





## THE

# FRESH-WATER GARS

HE gar family of fishes possess but little interest to anglers, the smaller species, known as billed-eel, billfish, gar-pike, and needle fish, being great pests when fishing for black bass with a fly on inland streams. Fortunately for the rod-and-line fishermen of northern waters, the alligator gar, a huge, muscular fish, useless as food and reaching a length of more than ten feet, is mostly confined in habitat to the south, yet is sometimes found in the Mississippi and other rivers as far north as St. Louis and Cincinnati. The species found most frequently in New England waters is the one known as the long-nosed gar, billfish, and common gar-pike (*Lepisosteus osseus*, signifying "bony" and "scales"). This species is exceedingly voracious, feeding mostly on the surface. It may be known on sight by the length of its snout, which is a little more than twice the length of the rest of the head, by its pale olive color on the back, and slightly

---

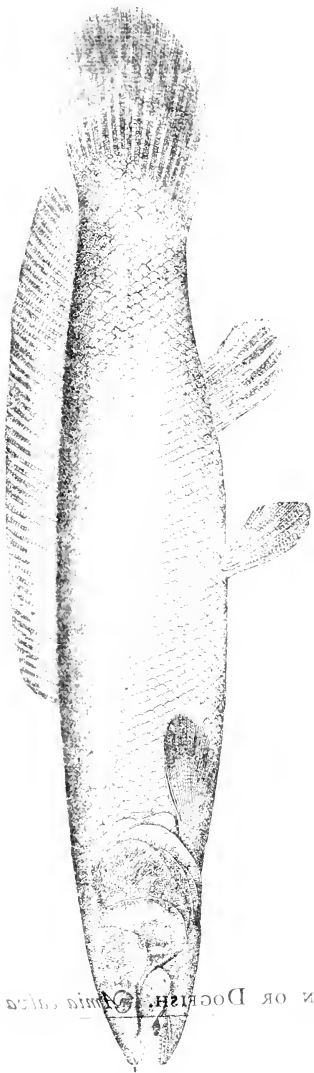
## FOREST, LAKE, AND RIVER

---

silvery on the belly. It grows to a length of five feet, but eighteen inches or less is the average size of those met with in the streams of New England. It ranges from Vermont south to the Rio Grande, and must not be confused with the needle fish of the salt waters, which bears similar popular names, and looks very much like it, although the first is exclusively a fresh-water fish, and the latter an anadromous species, doubtless ascending above tide-water to spawn. The distinct coloration of the two fishes will at once differentiate them; the fresh-water species being a palish olive and grayish, and the other green and brightly silvery.

Another species of the gar family is found in the Great Lakes and doubtless in Lake Champlain. It is known as the short-nosed gar, *Lepisosteus platostomus*, signifying "broad mouth." Its snout is usually not more than one-third longer than the rest of the head, and sometimes only equal to it; it is rather darker in color than the long-nosed gar, and seldom, if ever, grows longer than three feet. It is not abundant in the Great Lakes, and is exceedingly variable in the markings of the body.





THE BOWFIN OR DOGFISH. *Ammocetor ocellatus*

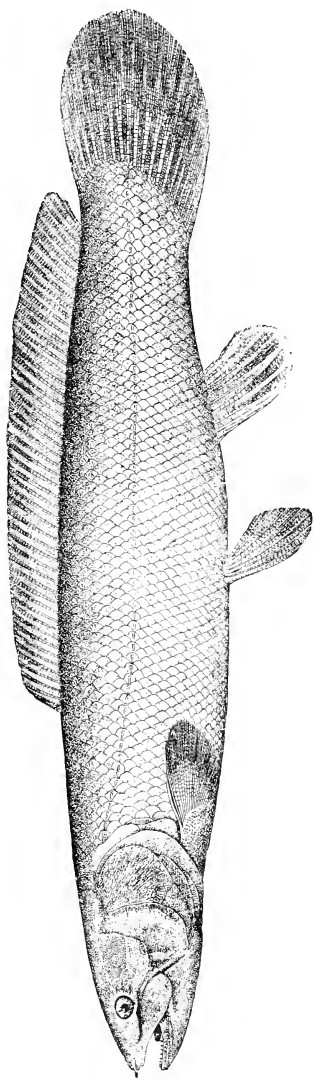
---

## FOREST, LAKE, AND RIVER

---

silvery on the belly. It grows to a length of five feet, but eighteen inches or less is the average size of those met with in the streams of New England. It ranges from Vermont south to the Rio Grande, and must not be confounded with the needle fish of the salt waters, which bears similar popular names, and looks very much like it, although the first is exclusively a fresh-water fish, and the latter an anadromous species, doubtless ascending above tide-water to spawn. The distinct coloration of the two fishes will at once differentiate them; the fresh-water species being a palish olive and grayish, and the other green and brilliant silver.

Another species of the gar family is found in the Great Lakes and doubtless in Lake Champlain. It is known as the short-nosed gar, *Lepisosteus platostomus*, signifying "broad mouth." Its snout is usually not more than one-third longer than the rest of the head, and sometimes only equal to it; it is rather darker in color than the long-nosed gar, and seldom, if ever, grows longer than three feet. It is not abundant in the Great Lakes, and is exceedingly variable in the markings of the body.





## THE BOWFIN OR --- DOGFISH

**T**HIS fish, known as “Johnny Grindle” in the Southern States, is somewhat unique in its classification, being the only specimen of its family, genus, and species, — a single species of a single order. It is numerous in the lakes and sluggish waters from Minnesota to Virginia, Florida, and Texas, and is found in the Great Lakes and in Lake Champlain. It is a voracious and lively game fish, with great tenacity of life; but its flesh is soft and pasty, and of but little value as food, although the Indians of the Great Lakes will gratefully barter a choice salmon for a dogfish.

The dogfish is technically known as *Amia calva*, and is also popularly known by the additional name of “mudfish,” “lawyer,” and “grindle.” It is of a dark-olive color or blackish, above the lateral line, paler below, with tracings of dark crossbar markings on the sides, the lower jaw

---

## FOREST, LAKE, AND RIVER

---

often with round blackish spots. On the male fish will be found a round black spot at the anterior end of the tail fin, which spot is surrounded by an orange or yellowish shade; in the female, this marking is wanting. The male fish is about one-fourth smaller than the female, the maximum of the former being eighteen, and of the latter twenty-four inches. The air-bladder of this fish is somewhat lung-like, and it has the peculiar habit of rising to the surface, and, without emitting any air bubbles whatever, opening its jaws widely, and apparently gulping down a large quantity of air. These acts of respiration are more frequently performed when the water is foul, and there is no doubt that an interchange of oxygen and carbon is effected, as in the lungs of land vertebrates.

In addition to this interesting anatomical trait, the dogfish is endowed with parental love; for it takes care of its young with all the solicitude shown by the black bass, the common sunfish, and the much-reviled catfish. It has other interesting qualities; for it is said to get the name of dogfish from its habit of barking much after the manner of a dog.

It spawns in May or June, and grows to a length of two feet, and a weight of twelve pounds. The

---

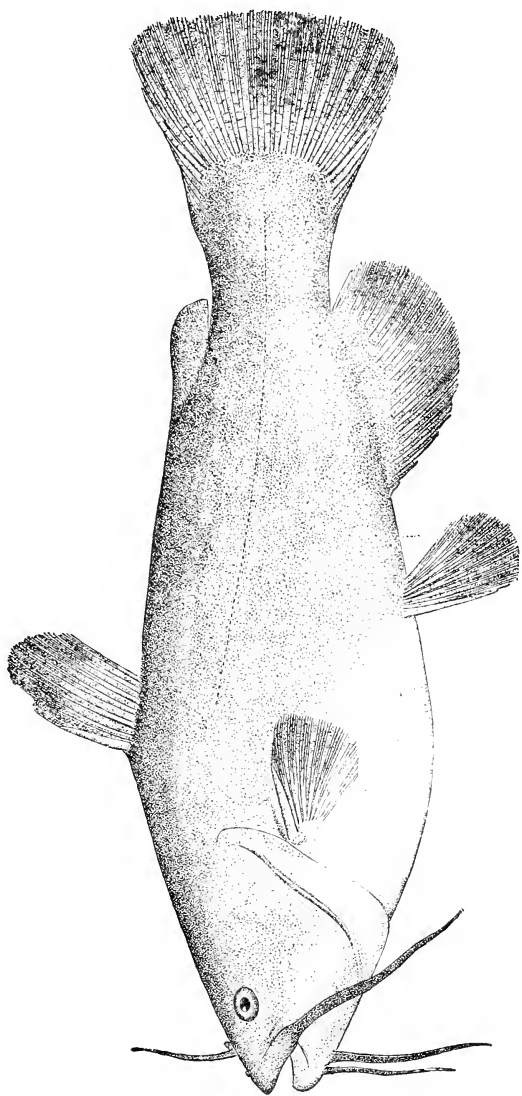
## *THE BOWFIN OR DOGFISH*

---

young of the bowfin make a famous bait for black bass, mascalonge, pike, and pickerel, being very tenacious of life, more so even than the catfish, having been known to live eight hours out of the water on an extremely hot day.

COMMON BULLHEAD. *Ameiurus nebulosus*





THE CHANNEL CATFISH. *Ictalurus punctatus*

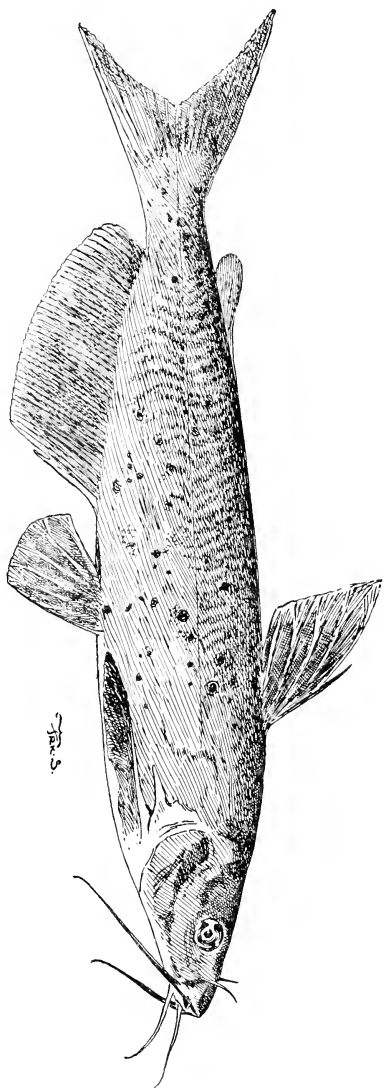


Fig. 5.



## THE CATFISHES

---

THE catfishes of the world's waters are represented by over one hundred genera and upwards of nine hundred species. Those of America number ninety-six varietal forms, and of these the waters of the New England States and Eastern Canada (including the Province of Ontario) contain only eight species, of which there are two marine forms which have been known to enter streams in the south, and presumably do so in the rivers farther north.

One of the salt-water fishes (*Felichthys marinus*), which I have taken on hook and line in an estuary below New York City, is interesting from its peculiar structure. Its first dorsal fin is shaped like the topsail of a yacht, hence its name, — gaff-topsail catfish. The coloration is strikingly beautiful, bright metallic bluish green above the lateral line and brilliant silver below it. It takes the lure with avidity, and is not fastidious as to the character of it, — a trait shown by all other species of the family, with the exception of the large channel cat of relatively pure waters.

---

## FOREST, LAKE, AND RIVER

---

The other salt-water form (*Galeichthys felis*) is the common sea cat so numerous in the waters of Florida, and reported as being sometimes found near Cape Cod. It has a deeply forked tail, the upper lobe of which is larger than the lower one, and the body is round, long, and tapering towards the tail. Its extreme length is two feet, and its color is steely blue on the back, and silvery on the sides and belly. The abundance of this catfish in our southern waters makes it a pest to the fisherman, who does not and cannot value it, either as a game or food fish.

The channel cat, white cat, or blue cat, as it is locally and variously called, is found in the Canadian rivers of the Great Lake region. It seeks from preference the channels of the rivers that are comparatively pure, hence is an excellent food-fish, and gives a lively fight to the angler, the flies of whom it is said to take viciously when the feathers are trailed upon the surface. Its weight reaches twenty-five pounds, and it is very abundant in the streams of the southwestern part of the United States. Its technical name, *Ictalurus punctatus*, is from two Greek words, signifying "fish" and "cat," and from the Latin, *punctatus*, "spotted," the latter indicated by the many small round black spots that appear on the sides, which

---

## THE CATFISHES

---

are pale silver in color, in contrast with the light olive shades on the back of the fish.

One of the largest of the American catfishes is found in the Great Lakes. It is the *Ameiurus lacustris* of the ichthyologist, and in the vernacular, according to its locality, it is variously called the Mississippi catfish, great forked-tail cat, Florida cat, flannel-mouthed cat, mathemeg or ugly fish, and the catfish of the lakes, the technical specific name being from the Latin, and meaning literally "living in lakes." It is especially abundant in the Mississippi River, and is reported to grow to a weight of one hundred and fifty pounds or more; but a newspaper report of a catch, bearing a mark of authenticity, states that a negro has taken a Mississippi catfish on a hand line, the fish weighing three hundred and sixty-four pounds. This I think not improbable, for a fish under the same conditions of food-supply and sluggishness will naturally fatten to the size of prize swine. The upper surface of the head of this fish is quite flat, so that the eyes are much nearer the upper than the lower plane of the head. The barbels or "feelers" are quite long, and all are black; the tail fin is deeply forked, the upper lobe being rather longer than the lower one. The coloration on the back is olive and slightly

---

## FOREST, LAKE, AND RIVER

---

slaty; on the sides it is pale, and entirely without spots.

Here and there may be found in New England waters, particularly those of Vermont, and most likely in Lake Champlain, a dark reddish brown catfish, the length of which seldom if ever exceeds eighteen inches. It has no popular name, but the books call it *Ameiurus vulgaris*, which, being translated, is "common cat with no notch in its tail." It may be recognized by its reddish color, by its projecting lower jaw, high back, wide mouth, and long barbels; but it must not be confused with the common bullhead, which it slightly resembles, and which I now proceed to describe :

The common bullhead (*Ameiurus nebulosus*, the generic name from the Greek, meaning literally "curtailed," and the specific from the Latin, *nebulosus*, "clouded") is abundant in nearly every pond and stream located between Maine and the Great Lakes, and southward to Florida and Texas. Its color is dark yellowish brown, more or less clouded, sometimes yellow, and sometimes nearly black. Its extreme length seems to be about eighteen inches; but those generally caught and sold in the markets, particularly in Philadelphia, seldom exceed ten or eleven inches. The upper jaw is distinctly longer than the lower, by which



---

## THE CATFISHES

---

feature it may readily be distinguished from the fish previously described.

*Ameiurus vulgaris*. — This species is to be particularly noted from the fact that the paternal instinct or affection is, in common with but few other fishes, fully developed, as seen in the diligent and anxious care it takes to protect its young brood from danger. This species was also the one selected by the United States Fish Commission for introduction to the waters of the Pacific coast. This was done in 1877, and these fish are now excessively abundant in the streams and ponds of the western slope, especially in those of California.

There are two additional catfishes, the habitat of which is the Great Lakes and their tributaries. The first, the yellow cat (*Ameiurus natalis*, the specific name from the Latin, signifying large “nates” or “buttocks”), has a short, broad head, wide mouth, and jaws equal in length, in many specimens; it is subject to many variations of color, which seem to be dependent upon the location and character of its habitat, as it is sometimes yellowish, greenish, and blackish in coloration. One feature, however, renders it characteristic among the catfishes: its body is extremely short and chubby in many individuals, which, in connection, with its

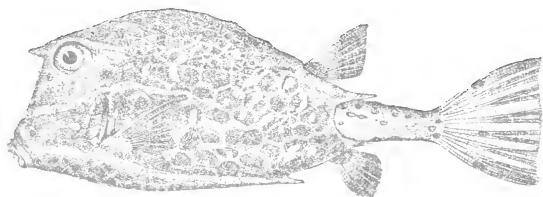
---

## FOREST, LAKE, AND RIVER

---

short, broad head, gives reason for its specific name.

The second species, inhabiting the Great Lake region, is the stone cat (*Noturus flavis*). This technical generic appellation has its source from two Greek words, signifying "back" and "tail," in reference to the connection of the tail fin with the fatty or adipose fin on the back; literally, it means "tail over the back;" the specific name, *flavis*, "yellow," refers to its color, which is uniformly a yellowish brown, sometimes slightly blackish; the fins are also edged with yellow. This is the largest of the stone cats, reaching a length of more than a foot.



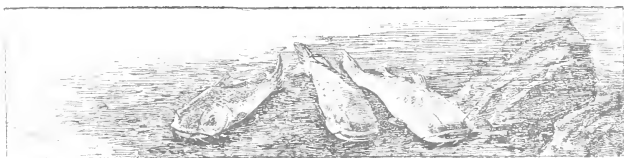
## THE BULLHEAD

*When a boy begins his angling,  
He seeks the bullhead in the deeps ;  
How he keeps his bait a-dangling  
Until a capture ! then — he weeps.*

*Weeps because the catfish cunning,  
With spines erect, inflict a wound ;  
The lesson one can read while running,—  
No pleasure but with pain is found.*

*There's a certain knack in grasping  
Must be employed, or pain may teach  
There's little sport in catfish clasping,  
And no demand for flowery speech.*

*The trick acquired, there's fun in catching,  
For bullheads' flesh is firm and sweet,  
Well worth the smart, or ugly scratching,  
That renders angling bitter-sweet.*





## *THE CATFISH*

---

### *AS A ROD AND TABLE FISH*

---

**E**VERY young fisherman begins his experience in angling by seeking the bull-head as his victim. As a rule, he usually succeeds, for almost any bait is taken and swallowed, while the fish delights to obtain revenge by inflicting, with erected spines, rather painful wounds.

The flesh of all the catfishes is of good flavor, although not especially tender or delicate. Angle-worms, pieces of meat or fish, or salt mackerel, and even pork make good baits.

Fishing in Florida waters, at one time, I captured a large "channel cat" on a mullet bait.

There are many people who detest most heartily all catfish as food; yet once in camp, at dinner, some were served, cooked properly, and were said to be delicious by the very people who, in talking about them, declared nothing would ever tempt them to eat a horn-pout.

Personally, I learned early in life to catch them, prepare them, and to cook them, so I enjoy eating

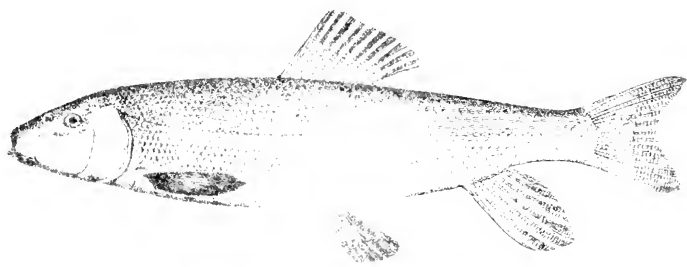
---

## *FOREST, LAKE, AND RIVER*

---

them now ; when tired by too frequent serving of other varieties of fish while in camp, it is a pleasant change to obtain a mess of bullheads, and in clear water ponds, where their food is of the right kind, the flavor of the meat is most pleasant and agreeable. No skill is required, however, in their capture, and they can hardly ever become favorites with our anglers.





THE COMMON SALMON (Salmo gairdneri Richardson)

---

## FOREST, LAKE, AND RIVER

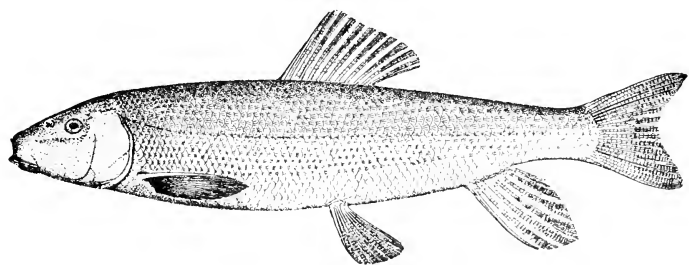
---

them now ; when tired by too frequent serving of other varieties of fish while in camp, it is a pleasant change to obtain a mess of bullheads, and in clear water ponds, where their food is of the right kind, the flavor of the meat is most pleasant and agreeable. No skill is required, however, in their capture, and they can hardly ever become favorites with our anglers.



THE COMMON SUCKER. *Catostomus commersonii*







## THE SUCKERS

---

THE sucker family of fishes is classified under the family name of *Catostomidæ*, and consists of about fourteen genera and sixty species, all of which inhabit the rivers of North America. It appears that of these, only eight species and one sub-species live in the waters of New England and Eastern Canada. They are not valued as food, the flesh being tasteless and full of small bones, although the residents along the banks of the sucker waters declare that, in October and November, they are a choice fish, barring their many bones. As the suckers spawn in the spring, their flesh is firmer in the fall, and naturally sweeter.

There will be found, in Lake Champlain and in the Great Lakes, a carp or drum called the lake carp (*Carpiodes thompsoni*, the generic name from the Latin, "carp-like," and the specific after the Reverend Mr. Thompson, who found the species in Lake Champlain). It may be known by its stout, short body, the back of which is greatly arched, by the unusual height of the first dorsal fin, and by its small head.

---

## FOREST, LAKE, AND RIVER

---

There is a very common sucker that never is found south of latitude  $40^{\circ}$ , and while it is abundant in the Great Lake region, it may not be found in New England waters, other than Lake Champlain. It is locally and variously called the long-nosed sucker, northern sucker, and red sucker, and is the *Catostomus catostomus* of the specialists, both names being from the Greek, and signifying "inferior" or underneath, and "mouth," in reference to the situation of the latter. Its lips are thick and covered with knob-like excrescences or tubercles; the upper lip is narrow, with two to three rows of tubercles, and the lower is deeply incised, and the eyes are small and situated behind the middle of the head. In the spring of the year, the heads of the males are covered with small tubercles, and a broad rosy band appears on the sides.

What is known as the "common sucker" is very generally diffused throughout New England and Canada. Its vernacular names are white sucker, brook sucker, and fine-scaled sucker, and its technical name is *Catostomus commersonii*, the specific from Philebert Commerson, an early and able French naturalist. It seldom grows longer than eighteen inches, and abounds in the streams and ponds, from Quebec south to Georgia, and

---

## THE SUCKERS

---

from New England (Massachusetts especially) west to Kansas. This species may be known by its moderately stout body, cylindrical and tapering, and by the heaviness at the shoulders. The mouth is rather large, the lips densely covered with minute nipple-like projections, the upper lip less so, with only two or three rows of papillæ. The coloration is slightly olive, with a faint rosy band appearing on the sides of the males in the spring of the year.

There is a large sucker, with a maximum growth of two feet, of interesting habits, which, no doubt, is found in certain waters of the southern New England States, although credited by ichthyologists with a range only as far north as upper New York State, and as its authenticated habitat is described as being from New York westward to Minnesota, it will doubtless be found in the streams tributary to the Great Lakes. This fish riots in vernacular names, each of which is more or less descriptive of its habits; it has no less than six of them, and, doubtless, many more yet to be heralded: hog molly, hog sucker, stone roller, toter, crawl-a-bottom, hammer head, and stone-lugger. Its specific technical name, *nigricans*, is from the Latin, signifying "blackish." This sucker is of purer habits than its congeners, being never found

---

## FOREST, LAKE, AND RIVER

---

in muddy or warm waters, but seeks its home in swift and rocky streams, which it ascends, nearly to their sources, to spawn. Its coloration is olive on the back, with a brassy lustre on the sides, a white belly with several dark cross-blotches, irregularly arranged, which, however, disappear in very old specimens. The head of this sucker is flattened above, and is concave crosswise between the eyes, which gives it a peculiar physiognomy easily recognizable.

There is a sucker of the Great Lakes, and doubtless of Lake Champlain and eastward, in the ponds and lowland streams of New England, called the creek fish or chub sucker, and ichthyologically known as the *Erimyzon sucetta*, the generic name from two Greek words, signifying "an intensive particle" and "to suck;" the specific from the French, *sucet*, "sucker." The coloration of this fish varies greatly in the age of individuals, and that of the sexes is widely diverse, — the males in spring usually having three large tubercles on each side of the snout, and the anal fin is more or less swollen. It seldom grows longer than ten inches. There is a varietal form of this species designated as *oblongus*, "oblong," which, as its scientific name implies, is longer and less compressed than the typical fish just described. It is

---

## THE SUCKERS

---

abundant in the northern upland streams of the Great Lake region, eastward to Maine, and south to Virginia. The coloration is dark olive above, and the young have a distinct black lateral band, which, as the fish grows older, breaks up into bars.

The winter or spotted sucker is a native of the Great Lake region, and is technically known as *Minytrema melanops*, the generic name from two Greek words, implying "reduced" and "aperture," in reference to the irregularity of the lateral line; the specific, also from the Greek, meaning "black" and "appearance." The maximum length of this fish is about eighteen inches; it has an oblong body, very slightly compressed. The head is medium in size, and the scales are large, firm, and regular, each one on the sides having a more or less distinctive blackish spot at its base, forming interrupted lines fore and aft, thus indicating the appropriateness of its technical generic name.

The white-nosed sucker is also a native of the Great Lake region; it does not appear to have any other common name, but its scientific appellation is thoroughly descriptive of its external anatomy. It is known as *Moxostoma anisurum*, the first or generic name from the Greek, signifying "to suck" and "mouth," and the latter or

---

## FOREST, LAKE, AND RIVER

---

specific, also from the Greek, meaning "unequal" and "tail." It has a deep stout body, much compressed, with an elevated back, and a head short and heavy, and broad and flat above. The snout or muzzle is prominent, and overhangs the large mouth, the upper lip of which is thin, and the lower strongly V-shaped. The upper lobe of the tail is longer than the lower, and the fins are very large.

The common red-horse, variously called mullet, white sucker, and large-scaled sucker, is found in the Great Lakes, westward to the Missouri River and south to Arkansas and Georgia. It is recognized in the books as *Moxostoma aureolum*, the specific name from the Latin, meaning "gilded." It is a stoutish fish, with full lips and bluntish muzzle extending beyond the large mouth. It has a large eye, large scales, and the coloration is olivaceous above, with silvery sides, and the lower fins in the adult fish are of a red-orange color.



# *THE SUCKER*

---

## *AS A ROD AND TABLE FISH*

---

ITH the exception of the common sucker, the fish is inferior as food. The young are useful for bait. Some can be taken by hook and earth-worms. A favorite and somewhat novel method in use, when I was a beginner, was to make a running loop of wire; then, from the planking of a low bridge that acted as a support for the body, watch the fish as they slowly swam about, quickly jerking the loop tight as it encircled the head of a victim.

The common "brook sucker" is the best known and most abundant. It inhabits all bodies of water, large and small, of New England. It varies greatly in size, color, and form. It is a free biter; when taken from clear water, well cleaned and washed, it is a good pan fish.

The "hog sucker" prefers rapids and shoals, and cold, clear water; as a rule, it rests quietly on the bottom, and, owing to its mottled coloring, it is hard to distinguish it from the small rocks

---

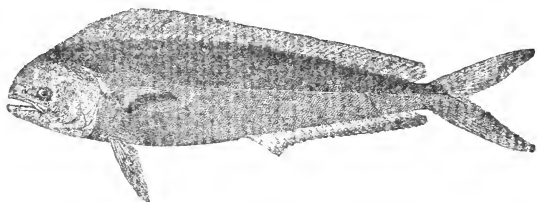
## FOREST, LAKE, AND RIVER

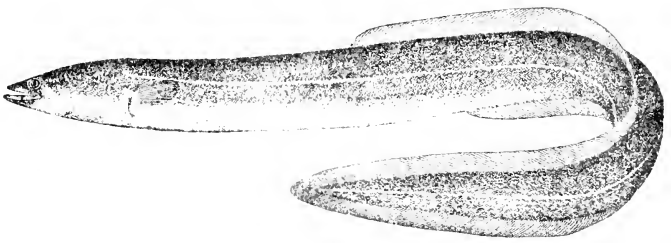
---

among which it lies. Found often in schools. It can move very quickly, darting away when disturbed.

The "chub sucker" is one of the smallest of its species, and is most abundant.

The "red horse" usually have their lower fins bright. They are palatable as food. They run up to the head waters to breed, when the dams and obstructions do not prevent them. Like their friends the minnows, if properly cared for, they are good eating. There exists a strong feeling that these fish are not worthy of consideration. The fault lies most probably in the fact that no attempts are made to test their value.





THE COMMON EEL. *Anguilla chrysolepis*

---

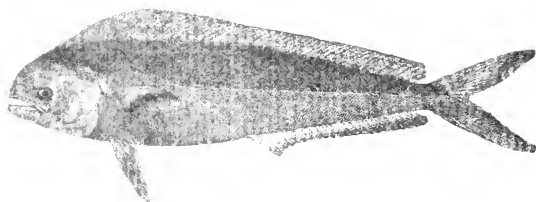
## FOREST, LAKE, AND RIVER

---

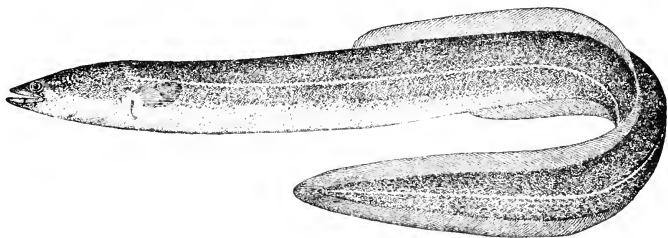
among which it lies. Found often in schools. It can move very quickly, darting away when disturbed.

The "chub sucker" is one of the smallest of its species, and is most abundant.

The "red horse" usually have their lower fins bright. They are palatable as food. They run up to the head waters to breed, when the dams and obstructions do not prevent them. Like their friends the minnows, if properly cared for, they are good eating. There exists a strong feeling that these fish are not worthy of consideration. The fault lies most probably in the fact that no attempt has been made to test their value.



THE COMMON EEL. *Anguilla chrysypa*





## THE EELS

**T**HE eels of American waters, including those of the deep seas, the electric forms, the congers and the morays, consist of eleven families, fifty-four genera and sub-genera, and ninety-six species and sub-species. They form a distinct order of fishes, under the classification, *Apodes*, which is from the Greek, meaning literally "without foot," in allusion to the absence of the paired fins, called "ventrals," on the belly of the eel. It is the belief of the most prominent ichthyologist, that this fish is a degraded form of the primitive stock, the result of "long continued and progressive degeneration." In this opinion rod-and-line fishermen of the present day promptly concur.

Of the large number of varietal forms of the eel, but one is a habitant of New England waters, ranging, however, from Maine to Mexico on our eastern coast, and ascending all rivers south of Canada. It is commonly known as the American or fresh-water eel, and technically as *Anguilla chrysypa*, the generic name being from the Latin, *anguilla*, "the eel," and the specific from two

---

## *FOREST, LAKE, AND RIVER*

---

Greek words, meaning “gold” and “below,” in allusion to the yellowish tinge on the belly of the eel, which fish, however, varies greatly in coloration in individuals. As this eel is the only one found in the fresh waters of New England, there can be no difficulty in properly classifying it when taken on rod and line. It is believed that it spawns in the sea or brackish water, and that the female dies after excluding her eggs.

It was doubtful for a long period as to the manner in which eels were propagated, many scientists going so far as to believe all eels to be hermaphroditic. It is now ascertained that the process of reproduction occurs the same as in many of the fishes,—the female exudes the eggs, and the fertilization is subsequently caused by the milt deposited by the male. It has also been noted that the female eel is much larger than the male, slightly paler in color, with smaller eyes, and higher fins.





“OK spot now by the  
full moon's yellow light”

---

## FOREST, LAKE, AND RIVER

---

Greek words, meaning "gold" and "below," in allusion to the yellowish tinge on the belly of the eel, which fish, however, varies greatly in coloration in individuals. As the eel is the only one found in the fresh waters of New England, there can be no difficulty in properly classifying it when taken on rod and line. It is believed that it spawns in the sea or brackish water, and that the female dies after excluding her eggs.

It was doubtful for a long period as to the manner in which eels were propagated, many scientists going so far as to believe all eels to be hermaphroditic. It is now ascertained that the process of reproduction occurs the same as in many of the fishes, — the female exudes the eggs, and the fertilization is subsequently caused by the milt deposited by the male. It has also been noted that the female eel is much larger than the male, slightly paler in color, with smaller eyes, and higher fins.

*"OR spear you by the  
full moon's yellow light."*



A.D. Turners



## TO AN EEL

*Elusive Eel, so darkly fond of worming  
Your way in ooze and mud,  
So like a politician in your squirming ;  
And yet, upon the flood,  
Like a long ribbon, you can float in grace,  
Though not one gleam of beauty marks your face.*

*Nosing about for food in every weather,  
By day and midnight found,  
You have a skin that can be turned to leather, —  
A flesh white, firm, and sound,  
Nor bad in taste ; though some not kindly take  
To you as food — you look so like a snake !*

*Small mind you have, they say, and though so squirming,  
But little sense of pain ;  
Snake-like you are ; yet that shall not deter me  
From frying you again ;  
And it's great fun to " bob " for you at night,  
Or spear you by the full moon's yellow light.*

*Yes, though I grant that you are not a beauty,  
And slimy to the touch, —  
Since to speak truth is always a man's duty,  
I'll own, I like you much ;  
For, like some men who fancy they are smart  
As eels, to catch you is an easy art.*



## *MORE ABOUT EELS*

---

MONG the mysterious wonders of creation, eels must be awarded a prominent place, but little being known about them or their mode of life.

There are three well-known varieties. They are found in salt, brackish, and fresh water, living as they do in ponds, lakes, rivers, and the ocean. As food, they were known to epicures in ancient days. Although there is a marked prejudice against their use as food, which is shared by many people, the flesh is most nutritious and rich in flavor.

Great numbers of eels at times visit the sea, and the passing upward of the young eels through the streams and rivers is a strange and novel sight. I cannot share the belief that eels eat tainted flesh. My experience leads to the belief that they are clean feeders, and prefer fresh fare. At times they appear to eat portions of the green plant life. Eels devour immense quantities of spawn, and are formidable factors in reducing the fish population, if the word can be employed piscatorially.

---

## FOREST, LAKE, AND RIVER

---

In the spawning season, eels follow the fish in large numbers, and gorge themselves with the roe. Outside of the traps that are used in the capture of eels, the favorite method with the angler is "bobbing," which consists of baiting with a number of earth-worms, threaded on pieces of twine or worsted, and tied up in a bunch. The teeth of the eels become entangled in the thread, and they are secured. The threaded worms are attached to a line, and, in turn, to a rod or pole. The captured eels can then be lifted from the water into the boat or a pail. "Bobbing" is done at night, and when from the shore, a fire makes the pastime more pleasant and picturesque.

Spearing is, perhaps, the best form of capture, and the sport is at times far from being an easy one. When the angler is fishing with a worm, eels are frequently taken, if the bait is allowed to drag on the bottom. Once, while enjoying a day's angling, I was resting at noon, having allowed my cast to sink. When I wished to resume the sport, I found that my line was fast. With difficulty, I endeavored to take in a little slack, but gradually was able to reel in more. Soon a tremendous commotion on the water's surface showed me that a large eel had mistaken my "red ibis" for a delicacy, and that he had caught himself.



---

## MORE ABOUT EELS

---

It was a long time before the big chap was landed, and not before he had snarled my leader into such a condition that it was rendered useless. It was a mistake, both on the part of the eel and myself, — I lost valuable time through the inadvertence, for I certainly had not intended to fish for eels.

In addition to three well-known varieties, a fourth has been found in some countries. There is much similarity in the various species. The prejudice against eels is doubtless due to the resemblance in its form to the serpent; but, as a matter of fact, there is but little similarity, except in the external form of the body. The skeleton and internal organs of the eel differ materially from those of the snake.

The Neapolitans have a custom of eating eels at Christmas, considering them as necessary at that time as an American does a turkey at Thanksgiving.

Mr. Ellis, in his "Polynesian Researches," written many years ago, says: "In Otaheite, eels are great favorites, and are tamed and fed until they attain an enormous size. These pets are kept in large holes, two or three feet deep, partially filled with water. On the sides of these pits they generally remained, except when called by a person who fed them. I have been several times with the young

---

## FOREST, LAKE, AND RIVER

---

chief when he sat down by the side of the hole, and by giving a shrill sort of a whistle, has brought out an enormous eel, which has moved about the surface of the water, and eaten with confidence out of its master's hand."

The consumption of eels in the city of London is enormous, thousands of tons being brought to that city from Holland, where they are bred in the canals. In the United States, they are not yet highly esteemed as food, except among the gourmets.

Eels migrate in the autumn down the rivers to the warm brackish water, which is often of higher temperature than the river or the sea. They bury themselves in the mud during severe weather. They have been known on occasion to leave the water at night, and travel some distance across country to another stream. By means of a long and capacious air bladder, they rise in the water according to their inclination. They are capable of enduring extreme cold, and frequently regain vitality after having been apparently frozen.

It is believed that after migrating down the river, the eel deposits its spawn early in the spring, and that the parent fish seldom returns up the stream, although the great bulk of the young do so. An old English writer says: "The passage

---

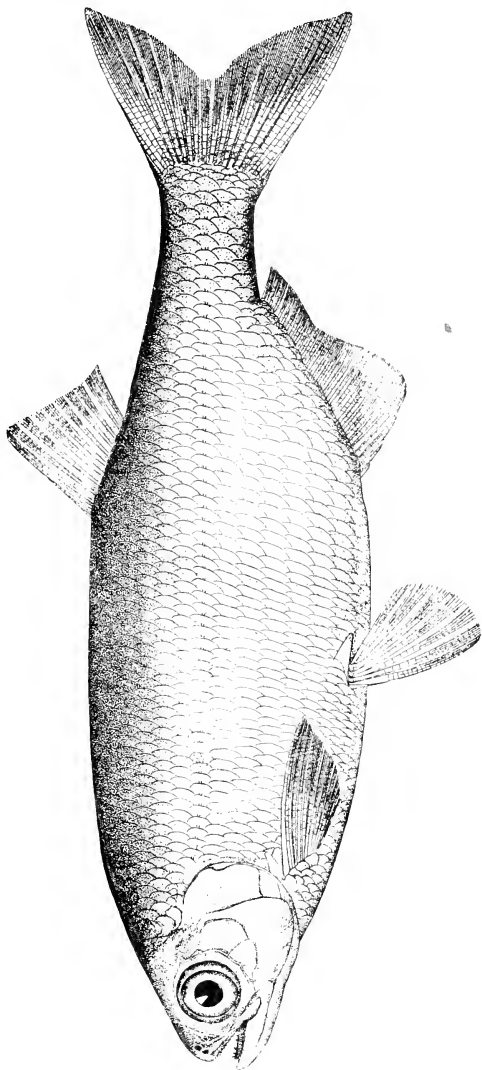
## MORE ABOUT EELS

---

of young eels up the Thames at Kingston, in the year 1832, commenced on the thirtieth of April and lasted till the fourth of May. Some notion may be formed of the quantity of young eels that pass up the river, from the circumstance that it was calculated by two observers that from sixteen to eighteen hundred passed a given point in the space of one minute." Another writer says: "Such a desire do the young eels appear to have to go up the stream, that their course is not easily stopped. I have seen a flood-gate six or seven feet in height, in parts covered by them, many succeeding in passing over this perpendicular barrier by availing themselves of the trickling water which escaped through crevices of the wood-work."

The eel is exceedingly prolific. The esteem in which he is held in America is only beginning to keep step with his phenomenal ability to multiply himself.

THE MOON-EYE. *Hiodon tergisus*





## THE MOON-EYES OR GOLDEN EYES

---

THESE are only three species of moon-eyes found in American waters, and but one of them indigenous to the region comprised in the western compass of this work, — the Great Lakes and the Province of Ontario. I have been informed, however, that one of them is or has been found in some of the larger waters of New England, doubtless in Lake Champlain. All of these fishes are handsome, and although but little valued as food, are choice quarry for the angler, the favorite species sought by him being known as the toothed herring, in addition to its more common names of moon-eye and golden-eye. It is technically known as *Hiodon tergisus*, the first name being from the Greek, signifying “hyoid” and “tooth;” the second from the Latin, *tergisus*, “polished” or “scoured” (“hyoid” is the bone shaped like the letter Y, forming the base of the tongue).

This fish may be recognized by the golden hue of its big, bright eyes, hence its name, its shad-like

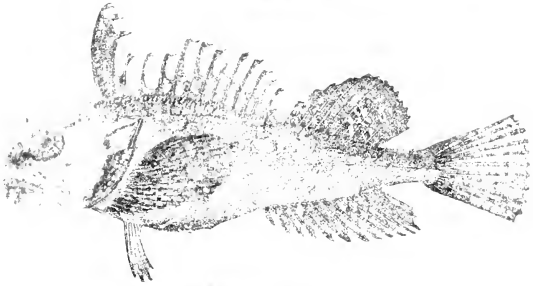
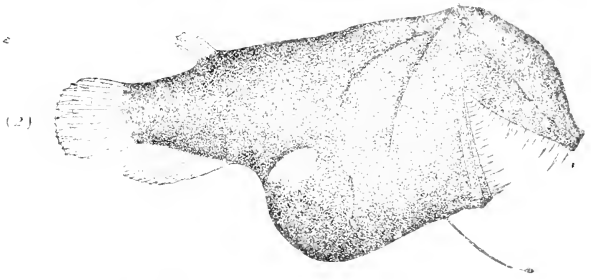
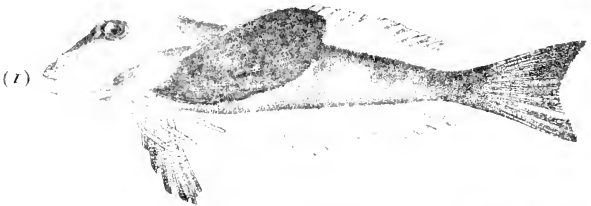
---

*FOREST, LAKE, AND RIVER*

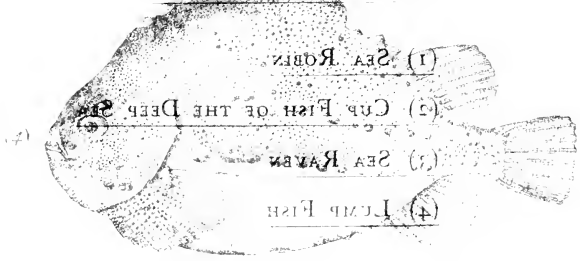
---

body covered with large smooth-edged scales, naked head, short snout, and by the lower jaw extending upward and fitting in the upper jaw. Its coloration is very beautiful, blackish olive with blue tints iridescent, and the sides glowing with silver sheen.





SOME CURIOUS FISHES



(1) SEA ROBIN

(2) CUP FISH OF THE DEEP SEA

(3) SEA RAVEN

(4) LUMP FISH

---

## *FOREST, LAKE, AND RIVER*

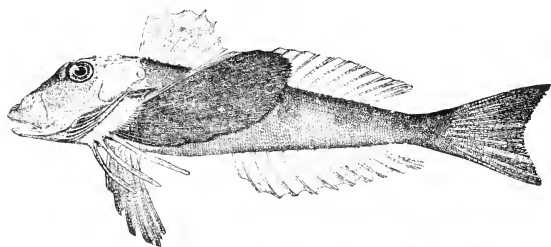
---

body covered with large smooth-edged scales, naked head, short snout, and by the lower jaw extending upward and fitting in the upper jaw. Its coloration is very beautiful, blackish olive with blue tints iridescing, and the sides glowing with silver sheen.

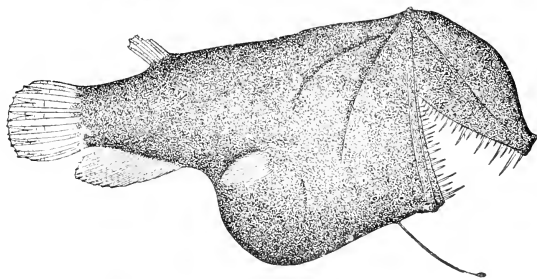
### SOME CURIOUS FISHES

- (1) SEA ROBIN
- (2) CUP FISH OF THE DEEP SEA
- (3) SEA RAVEN
- (4) LUMP FISH

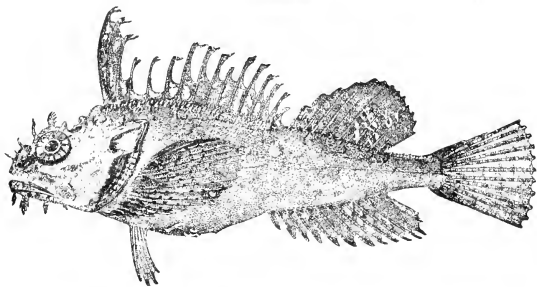
(1)



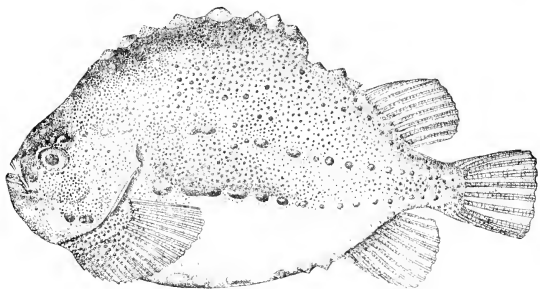
(2)



(3)



(4)





## THE GIZZARD SHADS

---

HE gizzard shad (four varietal forms) is very closely allied to the herring family, in which is included our delicious breakfast fish, the shad. It is called "gizzard shad" because of the peculiar construction of the stomach, which is very muscular, about the size of a hickory-nut, and shaped like the gizzard of a fowl. It is also called the "mud-shad," "winter shad," "stink-shad," "hairy back," and "white-eyed shad." Its technical name is *Dorosoma*, from two Greek words signifying "lance" and "body," in allusion to the lance-like form of its body when young.

Along the banks of the Great Lakes, it is sometimes called "lake shad," and is split and salted; but owing to the low quality of its flesh, and the innumerable quantity of small bones, it doubtless has but little sale. It is a familiar visitor to the brackish waters of the New England coast from Cape Cod southward, and is landlocked in many ponds from New Jersey southward to Texas.

The only species known to New England and Eastern Canadian waters, is called gizzard or

---

## FOREST, LAKE, AND RIVER

---

hickory shad (*Dorosoma cepedianum*, the specific name from that of Lacépède, a celebrated French ichthyologist). Its body is deep and flat, and in the adult fish much elevated, and the filament of one of the rays on the fin on the back is quite conspicuous, being usually about as long as the head of the fish. The coloration is bluish above, with silver predominating below, the tail being widely forked. The young may be known at once by the presence of a round dark spot on the shoulder. The gizzard shad is a handsome fish, but of little value as food.



## *THE CARPS*

---

**T**HE original homes of the carps (those species not indigenous to American waters) were in Persia, China, and the far East, and a gradual introduction into Europe occurred, commencing A. D. 1258, in Germany and France, and into England in the year that Columbus discovered America, 1492. Despite the fact that all the resources of the United States Fish Commission, reinforced by the singular executive ability of Professor Baird, who introduced the carp to America about twenty-five years ago, this fish has never gained favor with anglers, although lauded highly as a game fish by English anglers. It is, however, a favorite table fish among the Germans of New York City and other places, and the market price exceeds that of many acknowledged well-flavored indigenous fishes. It must be remembered, however, that the foreign method of cooking carp smothers the flavor of the fish in a mass of condiments, and the tasteless bowfin or Johnny Grindle, under like condition, would be acceptable to the ordinary palate.

---

## FOREST, LAKE, AND RIVER

---

We have now among us three species of carp, — the scaled, the king or mirror, and the leather carp. The first may be distinguished by the relatively small scales which cover the body from the gill-covers to base of tail; the second by the very large scales that run along the sides, the rest of the body being bare; and the so-called leather species have on the back only a few somewhat large scales, or none at all, the skin being very soft and velvety to the touch. There are many different varieties of these typical carps, of which the goldfish is an inferior grade.

Although the carps are not sought or even welcomed to the hook, by many American anglers, there are a few enthusiastic rodsters, native and naturalized, who want to lure every fin that inhabits the lakes or streams, and it may not be amiss to give the best methods of fishing for carp, — those which are followed by English rodsters.

Early in the morning, and occasionally late in the evening, are the best times for fishing. The smaller the pond, the better the chance of catching carp, though the fish do not run so large as in greater waters. The line should be entirely of medium-sized or fine, stained round gut; a very light quill float, and one good-sized shot put about six inches from the hook, which should be num-



---

## *THE CARPS*

---

ber five or six, baited with a brandling or red worm. The shot should rest on the bottom, weighing down the float to about "half-cock." Fix the rod in the bank, and keep perfectly quiet. When a bite is perceived, do not strike until the float commences to move away.



*FISHES*

---

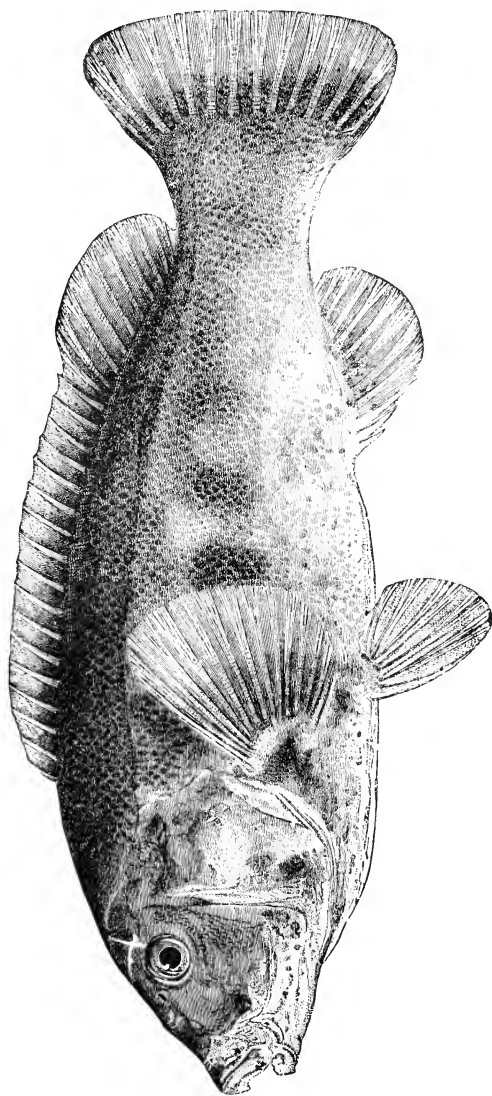
*THAT VISIT THE*

---

*UPPER TIDAL WATERS*

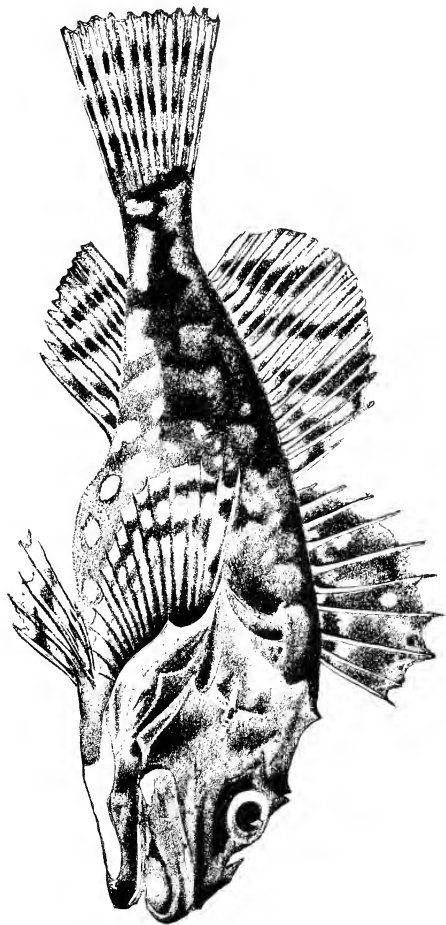
---

THE TAUTOG. *Tautoglabritis*



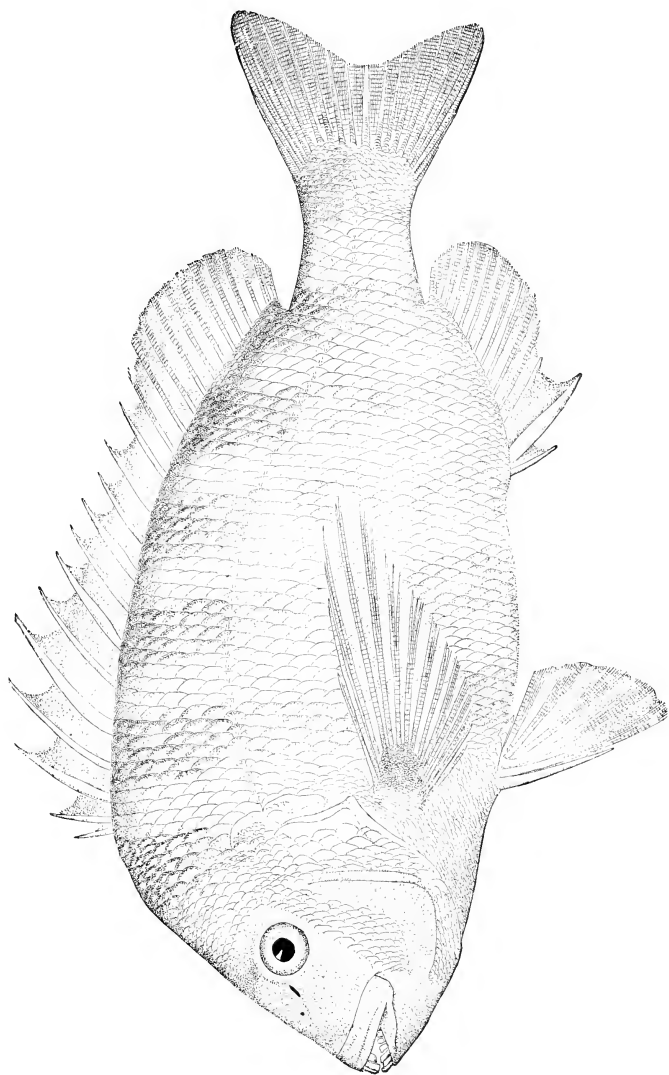
THE LONG-NOSED SCULPIN. *Myoxocephalus octodecimspinosus*

---

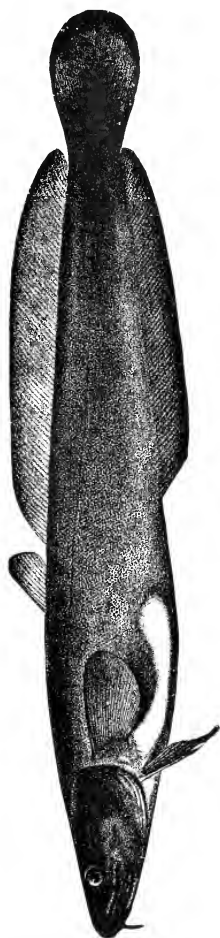


THE SHEEPSHEAD. *Archosargus probatocephalus*

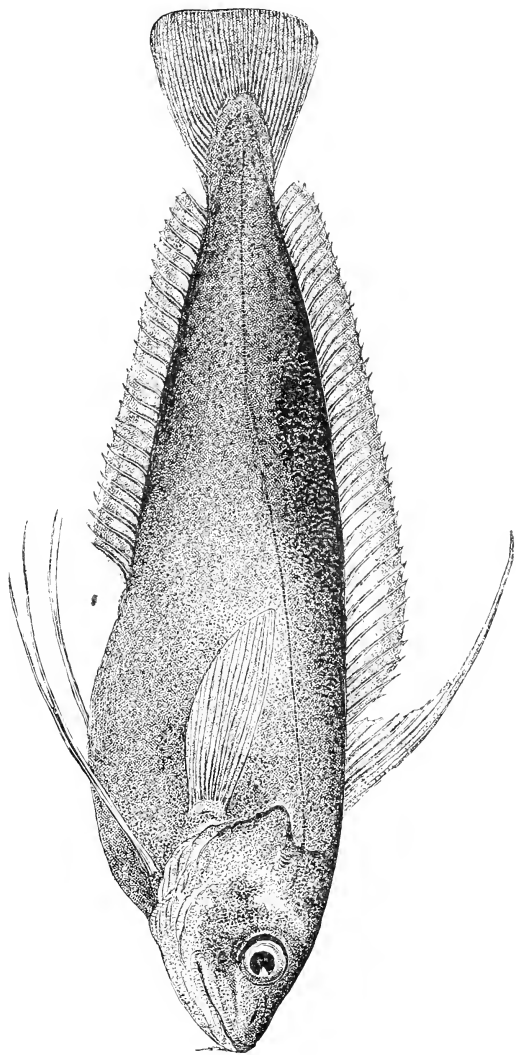




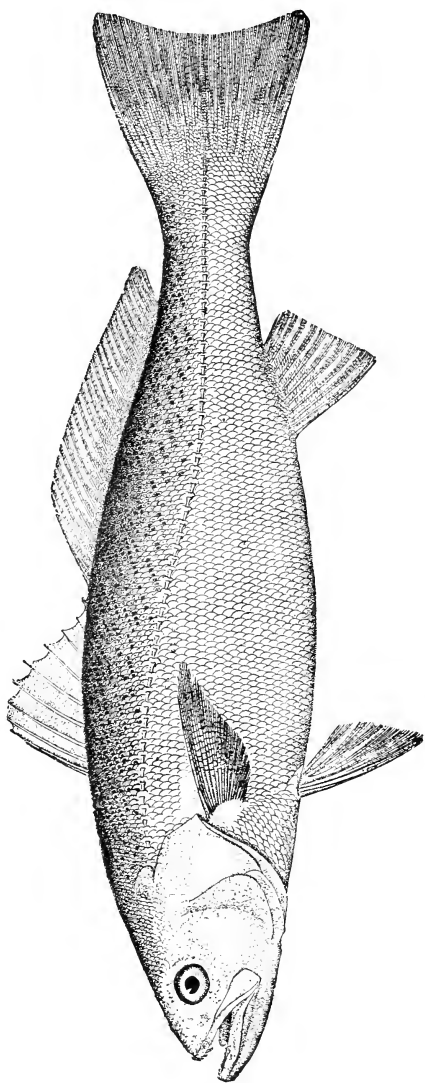
FRESH WATER CUSK. *Lota maculosa*



THE COAST      of the Atlantic Coast



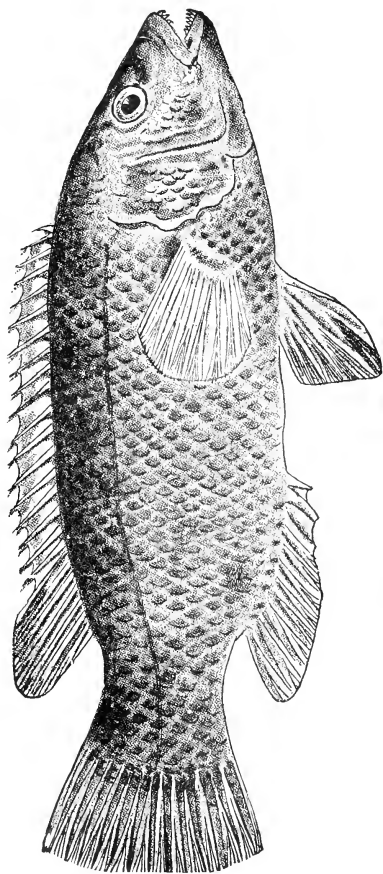
THE WEAKFISH. *Gynoscion regalis*



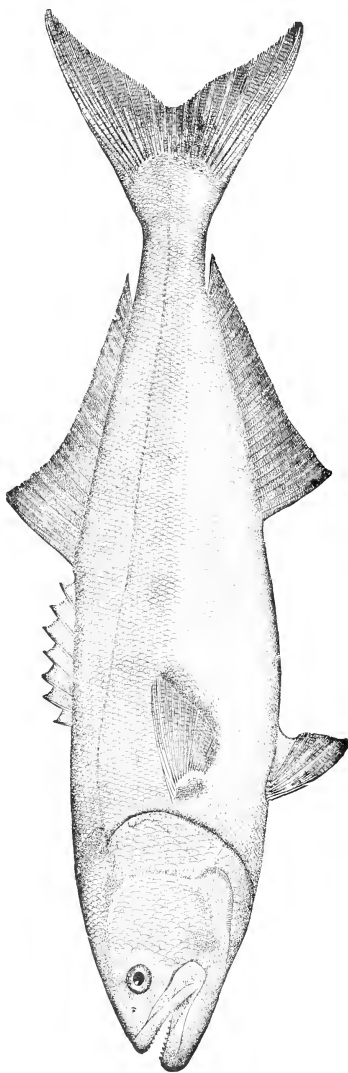
(1) THE PRO OF THE PRO AND MATRIX

(2) THE CO OF THE PRO AND ADSPERSUS





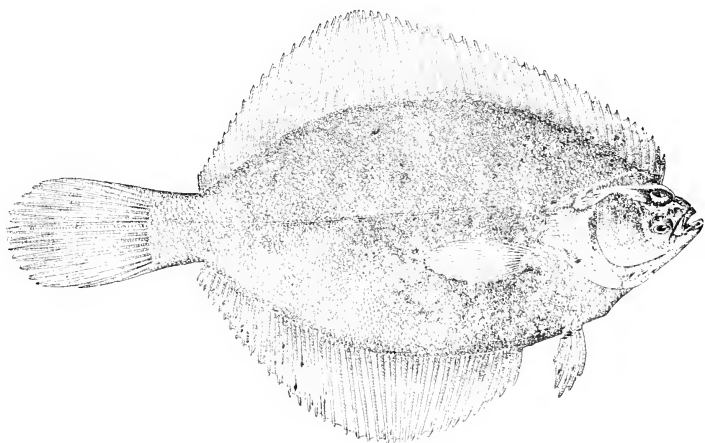
(2)



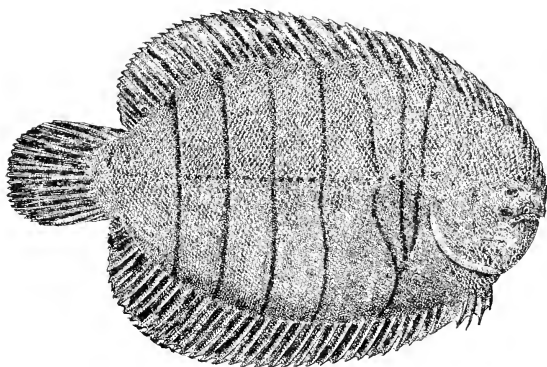
(1)

(1) THE EEL-BACK FLOUNDER. *Liopsetta putnami*

(2) AMERICAN SOLE. *Archirus fasciatus*



(1)



(2)



# *FISHES*

---

## *THAT VISIT THE*

---

## *UPPER TIDAL WATERS*

---

THE distribution and range of fishes is one of the most interesting and puzzling subjects that is presented to the ichthyologist, for, in connection with the remarkable adaptability of fish to changes of habitat, it must be remembered that during the glacial period salt-water districts were, doubtless, changed into fresh and *vice versa*. Thus, untold centuries ago, the conditions under which fish existed, were subject to radical and complete reorganization, and these modifications, so far as habitat and range are affected, still continue, owing to the influence of water-spouts and floods, the deposition of fish spawn by aquatic birds in widely separated waters, and the migration of some of the catfish, eels, and others, which are able to travel overland to waters, the trend of which finally carries them long distances from their former habitats.

It will be noted that a number of fishes, the general habitat of which is in the salt waters, and

---

## FOREST, LAKE, AND RIVER

---

of which monographs have been given on preceding pages, have the habit of entering fresh-water streams, impelled to do so in search of food, or by the natural law of reproduction. These fishes are called anadromous, and their most prominent representatives are the salmon, the smelt, the striped bass, the white perch, the shad and other herrings, particularly the alewives. Several of these lose their sea-going instinct and become landlocked. During their migrations, and when purely inland in habitat, a number of them yield excellent sport to the hook-and-line fisherman.

In addition to the above-named class, there are a number of others, known and classified as having a salt-water habitat, that visit the upper tidal waters, and occasionally wander into the streams, evidently for the sole purpose of finding new feeding grounds. In fact, the ranges of fishes of the "bitter waters" is as yet undetermined, and presents as great difficulty in ascertaining the accurate limits of its boundaries, as is found in defining that of our inland fishes.

Again, some fresh-water species find a congenial habitat in salt water. This trait is strikingly shown in the so-called pike of the Chesapeake Bay, which is the eastern pond pickerel (*Lucius reticulatus*) of the fresh waters east of the Alleghanies.

---

## TIDAL WATER FISHES

---

In some of the bays and estuaries of the New Jersey coast, this pickerel exhibits the same inclination for a salt-water life. The black basses also find the brackish waters congenial, and this peculiarity is not confined to the large-mouthed bass of Florida, in the waters of which State many of the fishes of the rivers, and numbers of those which habitually live in salt water, interchange temporary habitats. At the mouth of the Susquehanna River, the small-mouthed black bass is caught in numbers during the fall of the year, as far from the flow of the river as the celebrated ducking grounds near Havre de Grace, where the water is decidedly of a brackish nature.

A few additional species of the salt water, such as the flounders, eels, sturgeons, sharks, sculpins, and gars, show an inclination to visit the streams above tide-waters, and we have the authority of Mr. J. M. K. Southwick, President of the Rhode Island Fish Commission, for adding to the list, the fishes popularly known as the hickory shad, the menhaden, mackerel, bluefish, scup or porgy, butterfish, weakfish or squeteague, bergall or cunner, tautog or blackfish, codfish, haddock (the three last named are rarely seen), the sheephead in Warren River, Rhode Island. In reference to these fishes, Mr. Southwick writes to the author:

---

## FOREST, LAKE, AND RIVER

---

“ I have authentic information about them, and they are all sometimes found in fresh water.”

The salt-water angler of the Atlantic coast of New England and Canada finds comparatively few species from which he may expect remuneration for the time spent and the cost of an outing. Of these species, the striped bass (which has been treated upon in preceding pages), the bluefish, the weakfish, squit or squeteague, the tautog or blackfish, the flounder, the mackerel (see previous pages), the scup or porgy, and the butterfish are all found in the estuaries, and according to Mr. Southwick, in the fresh waters flowing into them.

The weakfish (*Cynoscion regalis*, derivation somewhat confused) is usually known as the squeteague or squit in New England, where its northern range appears to be limited to Cape Cod. Its brother, the sea trout, which is profusely spotted on the back and sides, is never seen north of the eastern end of Long Island, except as a straggler. The squeteague may be recognized by its silvery color, darker on the upper part of the body, and by a number of small, irregular, dark blotches on the sides, some of which form undulating lines running downward and forward. Under the dorsal line, there is usually a green, metallic reflection which deepens in color when the fish is dying,



---

## TIDAL WATER FISHES

---

and is still more intense when it is dead. The weakfish is one of the choicest table fish, when cooked in an hour or two after being taken from the water. As a rod fish, it yields exceptional play; but, as its name implies, its struggle is brief; yet, when fished for in a gentle tideway, on a nine-ounce fly rod, six feet of single gut leader, single hook, and crab bait, the latter causing the line to sink to midwater, where it undulates in the slow tide, the weakfish is a quarry to be sought with zeal and resultant excitement. The squeteague has no congener of kin in New England waters, all other members of the genus, of which there are nineteen in American waters, living farther south, or on the coast line of the Pacific.

The bluefish, also called the snap-mackerel, skipjack, and fat-back, is too well known as a rod and table fish to require a detailed description. It is technically designated as *Pomatomus saltatrix*, the generic name arising from the saw-like form of its gill-cover, and the specific from the Latin, "one who leaps," both being among the most accurately descriptive appellations which science has given to a fish. Its gill-cover is serrated, and as a leaper, particularly when hooked, it is not inferior to the salmon. It is a single species of a

---

## FOREST, LAKE, AND RIVER

---

single genus and a single family, and as such has a wide distribution over the Atlantic and Indian Oceans, and of late years has been very abundant on the New England coast. As a rod as well as food fish, it is highly esteemed; but those anglers who seek this blue leaper are apt to miss the maximum of delight in his capture, if they fail to anchor and "to chum" and "still fish." Cast upon the main handfuls of chopped menhaden, or, better still, pour upon it a gallon or two of crude menhaden oil, and with an eight-ounce rod, a number twelve Cuttyhunk line, a ductile wire leader and snood, a single hook with a bit of menhaden for bait, and the result will be the embodiment of angling delight.

Or, if you are venturesome, speed your catboat, when a wholesale breeze prevails, along the outer line of the breakers, and cast your metal squid over their crest and into their hollows. Watch sharp! Have a brave and steady hand at the tiller, for about you must go at the moment the seething nose of your little craft touches the rise of a breaker. But what thought of danger, when the blue gleam of a ten-pounder is flashed in the air, and the mighty pull and desperate surge is felt!

Not the least of salt-water pleasure is angling for the young bluefish, commonly known as

---

## TIDAL WATER FISHES

---

“snappers.” These are seldom more than ten inches in length ; but they come into the creeks in vast shoals in the early part of August, and continue to do so until October. They are seeking the killies or muddabblers or mummichugs, salt-water minnows that swarm the creeks of the estuaries from Nova Scotia to Florida. The snappers enter these creeks on the first of the flood-tide, and leave them on the last of the ebb. They come in small schools, as a rule ; but these follow rapidly, and at such times, with a six-ounce fly rod and a light line and a live muddabblers bait, they are equally combative as a trout, taking the lure near the surface, and fighting on it. A score of five to ten dozen “on a tide” is not unusual, and they are delicious morsels.

The blackfish, tautog, or oyster fish (*Tautoga onitis*) is one of the most valuable food-fishes of our coast, being very abundant, preferring shallow water, and seeking its food among the rocks along the shores. Its generic title, *tautoga*, is a latinization of the Indian name “Tautog,” and the specific is the Greek for a kind of plant, the relation of which to the blackfish is, as yet, unexplained. It is a favorite fish of our ex-President Grover Cleveland, who spends hours in its capture from the waters of Buzzard’s Bay ; when of good size

---

## FOREST, LAKE, AND RIVER

---

(specimens have been taken three feet in length, and twenty pounds in weight) it gives a sturdy fight on the rod, taking a lure of clam with avidity. It is like the bluefish, a single species of a single genus.

As the tench is reputed to be the physician of the pike, whose ailments it cures by rubbing its slimy sides along the body of *lucius*, so it may be said that the little cunner or bergall or blue perch is the boon companion of the tautog. Wherever the latter is taken, the blue perch is apt to dash for the lure and steal it from his bigger brother. In fact, three cunners are likely to be hooked to one blackfish. These pests of the fisherman are ubiquitous, and grow to a size of twelve or more inches, and in the Canadian waters are said to exceed two pounds in weight. If it were not for the myriads of bones, the bergall would be a good table fish, its flesh being tender and of good flavor.

The common scup, porgy, or scuppaug (*Stenotomus chrysops*) is a well-known fish to the anglers and markets of New England, south of Cape Cod, north of which it is not so abundant. Its names of scup and scuppaug are abbreviations of the Indian *miscuppaug*, and that of porgy is shared with an English fish and several species, so-called, in southern waters of our coast, hence should be

---

## TIDAL WATER FISHES

---

discarded ; the name of " Fair Maid " is applied to it also in Virginia. It is a fish of much beauty of coloration, the bluish metallic tone under its dorsal fin seeming to flow in waves across its body, as it is lifted from the water, and when dead, to settle back under the fin and deepens in metallic lustre. As a hook-and-line fish, the largest of them, which when four years old reach a weight of nearly three pounds, fight well, and amply reward the fishermen by their choice flavor as a pan fish. Formerly, specimens were taken not infrequently eighteen inches long and weighing over four pounds. These heavy fish are somewhat scarce now, owing to the value of the scup as a market fish, and consequently the persistent fishing for them for commercial purposes ; they are caught in pounds and traps in immense numbers, particularly along the coasts of Massachusetts and Rhode Island.

Of the vast number of the family of flatfishes, consisting of about fifty-five genera and nearly five hundred species, there are only nine forms living in and visiting the comparatively shoal waters of the New England and Canadian coast, and of these the rod-and-line fisherman meets most frequently with the two species known as the winter and the summer flounder. The latter,

---

## FOREST, LAKE, AND RIVER

---

owing to its large size, and for no other reason that can be even suggested, is almost universally called the fluke, a name that cannot be legitimately applied to any flatfish except the Craig fluke or pole flounder, which lives in deep water, never approaching the shores, nor reaching a length of over eighteen inches, while the summer flounder grows to three feet, and fifteen pounds.

As the two species (summer and winter) are often confused by the rod-and-line fishermen, it would be well for the rodster to count the rays of the fin on the back of the flounder he catches: if he finds on the back fin eighty-five to ninety rays, he has captured a summer flounder; if only sixty-five to seventy, he has before him a winter flounder.

The other species met with in our estuaries are the sand-dab, the four-spotted flounder, the rusty-dab, the eel-back flounder, window-pane, and the American sole or hog choker, all of which take a natural bait greedily, and are excellent table fish.

Distributed in the northern seas, there are about twenty-five genera and nearly one hundred and forty species of the codfish family. Of these, only nine forms visit the New England and Canadian coasts, and but few of them serve the angler's

---

## TIDAL WATER FISHES

---

purposes. It has doubtless been noted that Mr. Southwick states that the codfish and haddock visit the upper part of the estuaries, and have been seen in the fresh waters; to these may be added the pollack, which comes close in shore, and will take greedily natural lures and the feathers, no matter how crude their make-up may be. This, however, may be said of all fishes that visit comparatively shallow and clear waters. They will take a moving bait of any description, provided it is properly manipulated; even the catfish has been caught on a troll of flies in the St. John's River, Florida.

The little tomcod or frost-fish, which many erroneously suppose to be the young of the codfish, is always with us in the fall and spring, and a white or blood worm is a most tempting lure for them, and when caught they form a dish of exceptional flavor and sweetness. There are but two species of these fishes, one in Pacific waters, and the one on our Atlantic coast,—the *Microgadus tomcod*, the specific name being vernacular. This fish is frequently found far above tide-water.

Of the codfishes proper, there is but one species on the New England coast, and *Gadus callarius* is his name, the derivation of which is from the Latin, and simply means codfish, the specific *calla-*

---

## FOREST, LAKE, AND RIVER

---

*rius* being an old name for the cod. A detailed description of the codfish would be superfluous, as it is a commercial fish, and no angler, except one badly in want of meat, essays this lumbering, inert *gadus*.

Like the codfish, there is only a single species of pollack visiting our shores. It is the *Pollachius virens* of the books, the specific meaning "green," and the generic is an old English name for this fish. It swims near the surface, and fights somewhat fiercely on the hook.

We have, also, but one species of haddock, — *Melanogrammus æglenus*, which, being translated, is generically an old name for the fish, and specifically, "black" and "line," in allusion to the lateral line, which is always black. The fish may be further identified by the large dark blotch just above the breast fins, which marking, the old ichthyologists averred, was a visible proof that the haddock was the fish from the mouth of which Saint Peter took the tribute, leaving the impression of his finger and thumb (somewhat dirty ones by the by) upon the fish; another statement, which was credited by the market fishermen of England, during the eighteenth century, was that the haddock in rough weather sank into the sand at the bottom of the sea, and sheltered themselves until the storm was over, and sand and mud was seen on their backs



---

## TIDAL WATER FISHES

---

when they rose to the surface. The haddock is not an angler's fish, being, like the cod, only sought for commercial purposes, although it is occasionally seen in the upper tidal waters.

The cusk or salt-water ling, often so-called (*Brosme brosme*, a Danish vernacular name for the fish), is also a market fish, yet caught with hook and line in comparatively shallow water. The commercial fishermen assign to it a singular trait: it is said that, when on the hook, they curl their tails around the angle of a rock, which renders their capture difficult, and causes destruction of fishing tackle. The cusk or ling should not be confused, as often happens, with the fresh-water ling, burbot, or lake-lawyer, which is purely an inland fish resembling the cusk in general appearance, both having rounded tails and an extended dorsal fin and a barbel or "feeler." They may, however, be easily differentiated — the lake-lawyer has two fins on its back, the cusk but one.

The hakes are large cod-like fishes of voracious habits, and are but little valued as food, and seldom, if ever, visit the upper tidal waters, although the young are frequently taken while swimming near the surface, in mid-summer, on the southern coast of New England.

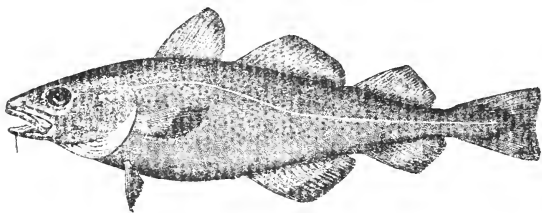
In addition to the species of the cod and cod-

---

## *FOREST, LAKE, AND RIVER*

---

like fishes named, we have the cod-lings or squirrel-hakes, the three-bearded rocklings, both deep water fishes, and the four-bearded rockling, which is common in Massachusetts Bay. Of the three-bearded rockling, Aristotle, in describing its habits, states an interesting fact: It leads a solitary life, is the only fish that has its heart in its belly, has stones in its brain, like millstones in form, and is the only fish which lies torpid in the warmest days under the reign of the dog star, Sirius; the other fishes going into this torpid state in the wintriest days. They bury themselves in the sand, and often they make themselves invisible; they wave the little things in their mouths which fishermen call little rods or little wands.



*A PLEA*

---

*FOR THE SINGLE HOOK*

---



## *A PLEA*

### *FOR THE SINGLE HOOK*

**A**S we leave boyhood's days behind us, with the changing scenes of life, and the results of added experience, the simple foods that once appealed so strongly lose their power of pleasing. The liking for sweets seems to fade away, and after the years have gone, we learn to enjoy those things that in youth we utterly failed to appreciate. If rheumatism or gout leaves us free from twinges, a canvasback cooked to the turn, a glass of Burgundy rightly warmed, a Camembert just soft enough, and an appropriate salad, most certainly possess a charm excelling that of the well-done beefsteak, potatoes, and pie that satisfy the schoolboy. Doubtless the explanation lies in the marked difference in the appetite that is distinctive of the two ages.

In boyhood, it was quantity ; now it is quality. In a great measure this evolution in taste will apply to our fishing experiences. I doubt much if the thrill of keenest pleasure is to-day more marked, even in the handling of delicate rod,

---

## FOREST, LAKE, AND RIVER

---

reel, and tackle, than that which overcame us when, with the pole cut and fashioned by the jack-knife, heavy, stiff, hard to wield, the line a cheap affair, the hooks durable, but not dainty, no reel at all, a mass of squirming worms serving as bait, we captured a very hungry fish, and successfully landed him high on the bank behind us.

To-day, in order to awaken this same thrilling sensation, we must make the fight and capture as difficult as possible. Our skill is pitted against the strength, activity, and sharp tricks of the game fish. Thus it appears to me—and I hope and believe to many of my fellow-anglers—that pleasure is keenest when we try not for numbers captured in any manner possible, but for the delicacy of skilful capture that alone is possible when the chances are taken with light gear. From dealers in tackle, we learn that the tendency to sportsmanlike angling is already a marked one. True, indeed, the shops are filled with a host of cunning devices, — imitations of live baits, with sets of hooks (generally three in number), and a sharpened, pin-like blade to pierce the living minnow and hold it securely; spoons, with a cluster of hooks, each covered beautifully with brilliant feathers, but all appearing somewhat like an ornament of tiny sword points. Every one of these cruel devices,

---

## THE SINGLE HOOK

---

when taken, makes it an almost impossible thing for the fish to escape. Holding him securely in so many places, when the net lifts him from the water, it becomes a difficult task to disentangle the points of the hooks from the meshes, occasioning delay and irritation. On the other hand, with the simple, single hook, we gain in time saved, and on good grounds obtain more fish. But, above all, use of the single hook brings the intense satisfaction caused by true sportsmanship, and the knowledge that we have engaged in a contest in which skill alone could triumph.

Personally, I often prefer to use the single gut hook, as with it the excitement of the sport is greatly enhanced. The single hook, the small fly, the light rod, reel, and line certainly accord with the ethics of angling, and allow an opportunity for fair fighting. Honest sportsmen care alone for the excitement and exercise of skill. They never kill more fish than they can make use of, and large numbers taken by them are returned to the water. Is it not a burning shame that sportsmen should be obliged to see large catches of beautiful fish, taken by any method, and landed hastily in a simple trial of obtaining numbers, carelessly thrown away, to lie and rot, depleting the waters from whence taken, and reflecting no credit on the

---

## *FOREST, LAKE, AND RIVER*

---

fisherman? It is creditable to the guides that they think ill of this wanton procedure. Often have I had my guide strike the net against the side of the boat, or make a dart at a good fighting fish, in order to stir him into action; and I have frequently had him release the fish as soon as he was landed.

In the years that may be granted to me in which I hope to do my share of fishing, I shall endeavor to obtain, when possible, the best, simplest and lightest tackle for all kinds of fishing, in the earnest belief that the joys of fair battling are more sharp and keen than those of the fisherman who knows no ethics.

When in the deep woods, where fish as food is a necessary thing, it is wise and best to have plenty of appliances of various kinds, in case fish do not bite well, but only in cases of necessity are these devices justifiable.

The lad counts that hour a happy one when the large string taken shows his playmates that he has done better work than they; but the tired-out professional or business man confines his appreciation to skill that enables him to out-general the fish by means of scientific handling of dainty tackle. To him, the woods mean rest, the air, new life. The beauty of the shading tints of green, the majesty of the golden sunsets, the clear skies, the



---

## THE SINGLE HOOK

---

changing clouds, the quick running waters of the mountain stream,—all present an ever-changing picture that brings him peace and comfort; while in the activity of exertion comes physical fatigue that in turn induces refreshing sleep, building up the vital forces, and enabling him to again devote himself with renewed zeal to his life's work. As the years pass, they convey to us the knowledge that truth and justice are the qualities that appeal more strongly to the noble mind. Therefore, in our woodland life, let us continue to be true fishers, giving manful regard and a better chance of escape to the brave quarry of the woods or the water, battling for liberty. Let us emulate the sportsman who never wantonly kills, who despises the tricks and unsportsmanlike devices of the pot-fisher, and the man who reaps his reward in the knowledge that he has given his adversary fair play, and that, when victory is his, he has deserved it honestly. Finally, let each true lover of nature and of sport strive to make capture more difficult for the angler, and the chance for liberty greater for the fish with each recurring season.



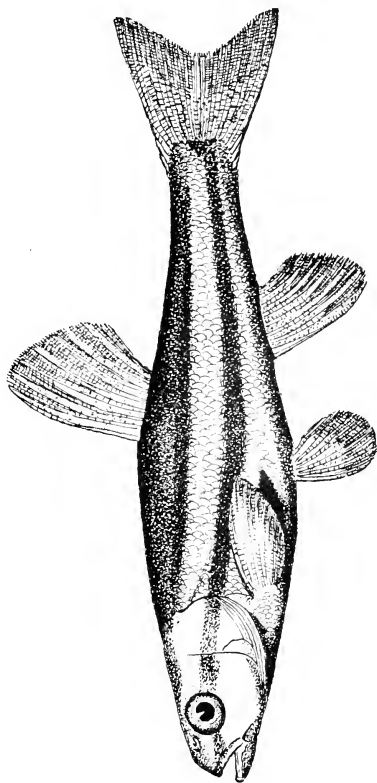


*MINNOWS AS BAIT*

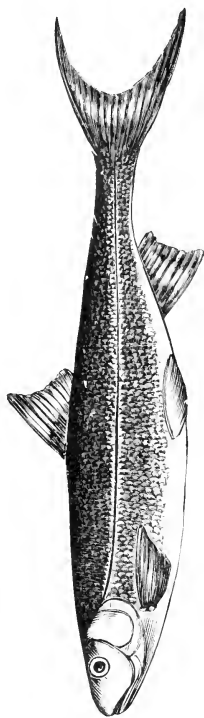
---

(1) THE RED-BELLIED MINNOW, *Channa erythrogaster*

(2) STORER'S MINNOW, *Hybopsis storerii*



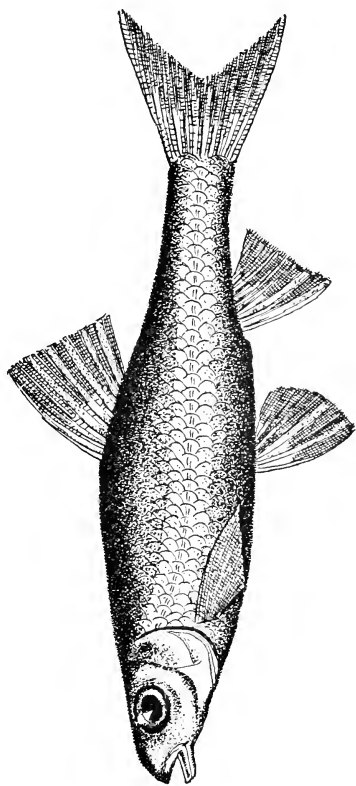
(1)



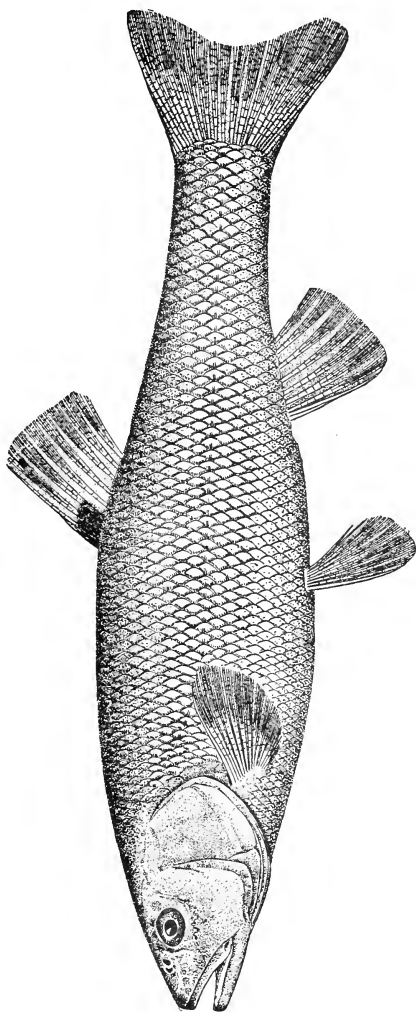
(2)

1. ԲԱՆՈՒՄԱՆ ԳՐԱԿԱՆԱԿՆԵՐԻ ՏՐԱԿՏԻ ԳՐԱԿԱՆՈՒԹՅԱՆ ՎԵՐՈՒՄ

ԲԱՆՈՒՄԱՆ ԳՐԱԿԱՆԱԿՆԵՐԻ ՏՐԱԿՏԻ ԳՐԱԿԱՆՈՒԹՅԱՆ ՎԵՐՈՒՄ



(2)



(1)





## *MINNOWS AS BAIT*

---

Of the thirty-three hundred species of fish inhabiting the fresh and salt waters from Greenland south to Brazil, one-half, at least, are classed by the fisherman as "minnows," and as such would be used, when obtainable by him, as baits to lure larger and choicer fish. In New England and Canada, those selected as lures are comparatively few in number. In the salt waters of the coast, the mummichug or "killy" are most frequently used, and the small cyprinoids in fresh waters, both fluvial and lacustrine. Of the latter, the most prominent is the species popularly known as "redfins." We have often been at a loss to distinguish at sight the typical species of these little pests of eastern trout streams, particularly if those waters have been fished for a long period, in which case the chubs and redfins get control of the brooks.

The typical and largest redfin in eastern waters is the *Notropis cornutus*. It grows to a length of eight inches, but its average length is about three

---

## FOREST, LAKE, AND RIVER

---

inches. It may be recognized by its compressed body, scales broader than they are long, lateral line much decurved, its dark steel-blue color on the upper part of its body, and the dusky tints on the edges and bases of the scales. The rosy color of the lower fins appears only on the male fish in the spring of the year, at which time the lower jaw and the region from the dorsal fin to tip of snout is covered with small tubercles. The redfin is sometimes called, as other small fishes are almost always designated, the "shiner" or "dace." It is common in all streams, and is extensively used in some localities for luring trout and other fish.

Another cyprinoid much used, is known as the "horned dace" or "creek chub" (*Semotilus atromaculatus*, the specific name being from the Latin, *ater*, "black," and *macula*, "spot"). When mature, particularly in Canadian waters, it has been taken up to three pounds in weight; but the average size of the adult, in New England, seldom exceeds ten inches, and those used for baits should not be larger than three to four inches. It is known on sight by the conspicuous black spot in front of the base of the dorsal fin, the dusky bar behind the gill-cover, and its strongly decurved lateral line. Its coloration is dusky bluish above, creamy on the belly, which is rose-tinted on the males in the

---

## MINNOWS AS BAITS

---

spring of the year. These fishes are abundant in almost every brook and river, and are more generally used than any other minnow for bait. During winter they can be taken in great numbers through the ice, at which season they are generally found to be eight to nine inches long, and are excellent pan fish. There are several other species of chubs found in New England and Canadian waters, all of which, when small, are used as baits.

There is also a pretty little fish, commonly known as the "red-bellied dace," which is technically *Chrosomus erythrogaster*, both names being from the Greek, and signifying "red beauty of the body." It is very beautiful, with its silvery iridescence of the lower parts, the clear brownish olive of the upper, and the two black lateral bands traversing nearly the entire body, the upper one passing through the eye to the snout. Between these two black bands, there is a bright silvery area. These little fish are very abundant in the waters around Freeport, Maine, and are, doubtless, found in many other waters along the coast of New England from April to July; after that time, having spawned, they lose their bright colors, and collect in deeper waters.

The golden shiner, indiscriminately called roach

---

## FOREST, LAKE, AND RIVER

---

and bream, is abundant everywhere, particularly in the bayous and weedy ponds. It is scientifically known as *Abramis crysoleucas*, the generic name being an old one for the bream, and the specific from two Greek words signifying "gold" and "white." It may be recognized by its small mouth, clear, greenish color on the upper part of the body, silvery sides, with bright golden reflections and yellowish fins, the tips of the lower ones becoming slightly orange in the male fish in the spawning season. The golden shiner is one of the most familiar and characteristic of the bait minnows, and is highly prized as such by fishermen for bass, pike, and pickerel.

The blunt-nosed minnow or "fat-head" (*Prinophales notatus*, the generic from two Greek words meaning "fat head," and the latter, or specific name, from the Latin, *notatus*, noted or "spotted") is found from Quebec south to Delaware on the eastern coast, and is a tough little fish, seldom exceeding four inches in length, and is much used for bait in the Middle Atlantic States. The head is entirely black, and on the snout of the male fish are to be found not less than fourteen unusually large tubercles in the spring of the year.

The "long-nosed dace" (*Rhinichthys cataractæ*, the generic name from the Greek, signifying

---

## MINNOWS AS BAIT'S

---

“snout,” and the specific from the Latin, *cata-ractæ*, the original type of the fish being from Niagara Falls) seldom grows longer than five inches, and is a favorite bait. It has a little barbel or feeler on the lower jaw; the coloration is greenish olive above, paler below, with numerous dusky blotches or spots. The back is often almost black, and the very young specimens have a dusky lateral shade. On the males in the spring, the lips, cheeks, and lower fins are crimson in color.

The “black-nosed dace” is a close brother to the one described above, in fact it has the same generic name, the specific, *atronasus*, being from the Latin, and meaning “black” and “nose.” Its length seldom exceeds three inches, and the color of its nose will identify it.

Of the other fresh-water minnows used, particularly in New England, there are seven species, popularly called “fat-heads” or “blackheads,” plumbeous minnows, brindled minnows, cut-lips, or nigger chubs, — all of which belong to the carp family. The first may be known by the large black bar across the first fin on the back in the adult, but appearing as a simple dusky shade in the young. The average length of the adult is about two and one-half inches.

The second (the plumbeous minnow) may be

---

## FOREST, LAKE, AND RIVER

---

distinguished primarily by an obscure dusky band that runs through the eye and around the snout, also by its broad head and flat snout. Its length is about six inches.

The brindled minnow has a slender body, a blunt muzzle, a large eye, and a median or lateral line extending only a short distance from the gill-covers. It is straw-colored, with a shining black band from the snout through the eye to the tail fin. Its average length is about ten inches in the adult.

The cut-lip, or negro chub, can be at once identified by its broad flat head, which is flattish above, and tumid cheeks, and by its three-lobed lower jaw.

Minnow life in Eastern Canada and New England is not so abundant as it is in the Southern States, in the Mississippi Valley, and on the Pacific coast, the above described minnows being the principal cyprinoids that are in general use by the angler of New England; but other small fishes, such as the young of the common sucker, some of the mud minnows, young catfishes, and the darters, are also esteemed as bait for bass, pickerel, pike, and other large fishes.

The common sucker (*Catostomus commersonii*, from the Greek, "inferior" and "mouth," and from the name of an early French naturalist), also

---

## MINNOWS AS BAIT

---

called "white sucker," "brook sucker," and "fine-scaled sucker," is one of the most desirable of all minnows as bait, for it is the toughest and most tenacious of life; but it is also most difficult to collect in sufficient quantities to use. It will be known at sight by its peculiar, thick-lipped mouth, which is situated below and behind the snout.

The "mud minnow" or "dog-fish" is the *Umbra lini* of the brooks, from the Latin *umbra*, "shade," and *linus*, "mud." It is mostly found in ditches and muddy streams. Stir up the mud, and your bait is generally at hand. Its coloration is a dark olive-green above, somewhat darker below, mottled with about fourteen pale transverse bars, often obscure in the young fish. It never grows beyond four inches, and, like other bottom fishes, is tenacious of life, and tough in lip-formation.

Whenever a young catfish can be obtained, it will be found excellent for alluring black bass and other fish. Care, however, must be taken to allow more time for the bait to be mouthed, turned, and swallowed, as the spiny dorsal of the catty is often fatal to the fish when it seizes the bait with a rush and swallows it quickly, and the game fishes seem to be aware of this fact.

There is no need of describing the catfish or

---

## FOREST, LAKE, AND RIVER

---

specifying species; any of them will answer the demands of the appetite of the larger fish, and everybody knows a catfish when seen.

Some of the darters, little fellows that flash through the water like living streaks of light, hence their name, are favorite baits. Only three species of them are found in Eastern Canada and New England, and these are to be recognized by their wide mouths, and large fins, those on the belly being more or less widely apart. Their coloration is bright, often brilliant, with clear, dark blotches on the sides of the body. Of these fish there are three which are native to New England and Eastern Canada, to wit: The tessellated darter, found from Lake Ontario to Massachusetts; its extreme length is about three and one-half inches, and upon its sides will be found blotches and zig-zag markings, and usually a black stripe forward from the eye and another downward. In the waters around Montreal, Canada, a little darter has been found with a heavy head and a blunt snout which is slightly decurved; the extreme length is two and one-half inches, and the species is scarce, having only been found in the habitat named above. The other or third species is the spotted-tail darter, having four dark spots on the base of the tail fin; the dorsal and the last named



---

## MINNOWS AS BAIT

---

fin are speckled and dark ; the back fin is usually bright blue, and the median line is a crimson band. It is found, or was until recently, in the Charles River, Massachusetts, and is a habitant of lowland streams and ponds from Massachusetts to the Rio Grande, and west to Minnesota.

The "lamper" eel, a misnomer for "lamprey," is much used for luring black bass and other fishes, in fact, it is, in some sections, as generally used as the garden or earth worm for that purpose ; all fish take them greedily. They may be known on sight by their resemblance in form to that of the eel, to which, however, it has not the slightest affiliation in internal anatomy and habits, being without bones, cartilage taking their place ; it has neither jaws, limbs, ribs, nor shoulder girdle, and in its youth undergoes a metamorphosis somewhat similar and as characteristic as that of the tadpole to the frog. The species found in New England and Eastern Canada are four in number : one, the sea lamprey, growing to the size of three feet, is anadromous, ascending the rivers in spring to spawn ; the others are found on river bottoms near the shores, and their young are those used by inland anglers.

The lampreys, as has been stated, have no jaws ; the mouth is a large circular disk, thickly studded

---

## FOREST, LAKE, AND RIVER

---

with strong spines or teeth, enabling a sure grasp of its victim. It is possible for the animal to adhere quite tightly to an object by suction, through the peculiar formation of its mouth. Having secured itself, it rasps away with the saw-like teeth on its tongue and by the action of numerous other teeth, until it has worn through the thick skin or scales of its prey. It remains attached to the fish, sucking blood when it is hungry, until the hole is made so deep that the abdominal wall is perforated and the body cavity penetrated. The injured fish may not always die, but in every case is made weak, and loses strength and flesh. The bullhead or catfish, suckers, carp, lake herring, pickerel, sturgeon, whitefish, pike, bass, mascalonge, perch, lake trout, wall-eyed pike, redhorse, eels, drum, white bass, and other fish, all suffer severely. One attack on small fish proves fatal. In large fish, they may survive the first attack, and fall a victim to a second or third.

There are five species of killifish or mummichugs indigenous or visitors to the salt waters of New England and Eastern Canada, some of which ascend to tide-water or beyond. The first is the Mayfish or rockfish, which is somewhat abundant, at times, in the shallow bays, and sometimes ascends fresh streams slightly above tide-water. The

---

## MINNOWS AS BAIT

---

females are longer than the males, and may be distinguished by a narrow black longitudinal line along the sides about on the level of the eye, and as wide as the pupil. It seldom grows beyond six inches in length, but is the largest species of the killifishes.

The second is the muddabber, which is the common killifish found in great schools almost everywhere along the coast, sometimes up to the head of tide-water, from Maine to the Rio Grande. It is a short, deep-set little fish, with an elevated back, and the sides of the males conspicuous with numerous white or yellow spots. The females, however, are nearly plain in coloration, without spots or bars, but often with about fifteen dark shades across the body. Its length is from three to six inches.

The third species has no common name except that of killifish; but the male may be recognized by its fifteen to twenty silvery vertical bars, and the female by a like number of dark transverse bars. It never grows beyond four inches in length, and is found in Maine and in the fresh waters of the other New England States. There is another killifish which bears the peculiar name of "rain-water fish," presumably because it is often found in shallow waters and tide pools near the shore.

---

## FOREST, LAKE, AND RIVER

---

The males have a large black spot at the base of the dorsal fin in front, which fin is dusky orange; the tail fin is orange-yellow, and those on the breast are translucent. The females have pale olive-colored fins, without black spot or edgings; of the two sexes, they are the largest, but never grow more than two inches in length.

There is still another killifish, known as the sheepshead or pury minnow, that is found from Cape Cod southward, in brackish water, and sometimes entering streams. It is not abundant in the north, but when found the males may be recognized by their dark olive-color, and the lustrous steel-blue extending from the breast fins to those of the back. The females are lighter olive on the back, and have fourteen alternately wide and narrow vertical dark bars. The males grow to three inches in length, and the females to two inches.

The silversides, small minnows sometimes used as baits, are all of moderate or small size, some of them entering or inhabiting fresh waters. Those of New England and Eastern Canada are two in number, the most prominent of which is found (without a common name other than that of "silversides") along the northern coast in numerous schools. It is of transparent green color, with a silvery lateral band, with spots along the edges

---

## MINNOWS AS BAIT

---

of the scales. It never grows beyond five inches in length.

The young of some of the mullets are sometimes used for baits, the best of them being the white or blue-back mullet, which is numerous from Cape Cod to Brazil. It may be known by its thick lips, and its eyes being hidden, before and behind, by a broad fatty membrane, and by a rather small dark blotch at the base of the breast fins.

There is a little fish that may occasionally be met with by inland fishermen of New England and Eastern Canada, which, when found, will make excellent bait for all fishes of fresh water and, doubtless, those of salt water. It is known as the miller's thumb, blob, muffle-jaw, bullhead, and spring fish. It has a slender (sometimes stout) body which tapers gradually backward to the tail; its head is large, flat on top, and its breast fins are also very large, extending backwards nearly to the base of the tail fin. Its length is three to seven inches, but the size and form is extremely variable. It is also very destructive to trout eggs.



## SMALL FRY

*We are darters, like the arrow ;  
Dandies, we, of lake and stream ;  
We, the angler love to harrow,  
As we dart and glide and gleam.*

*Myriad foes give us no respite,  
From our birth until we die.  
Brains and tricks outwit them, despite  
All their wiles. We're quick and shy.*

*Ranging wide as cross to crescent,  
Colors, bright as bright can be,  
Opalescent, iridescent,  
Brilliant as our pedigree.*

*Life to us is short, but jolly ;  
Dodging danger is our play ;  
Longevity at best is folly ;  
Enjoy each moment while you may.*

*Thus our part in life we're acting,  
Thus we serve our purpose well ;  
Mental work we find exacting,  
But in sprinting, we excel.*

*E'en the rodsman deems us worthy,  
When we serve as taking lure ;  
And, in jaws of trout or pick'rel,  
Find our grave, all premature.*





## MINNOWS

**A**LTHOUGH the minnows are small, they are not to be despised on that account. They make a most excellent fry, when a sufficient number can be obtained, and, in the excellence of their meat, compare well with fish of larger size.

As a rule, minnows are clean feeders. They live on aquatic vegetables, and on small insects and worms. There are many minnows, and their flashing colors seem to attract the attention of the larger fish. Their existence, from the very first, is a strenuous struggle. All fish are ready to devour them, and were it not for the fact that minnows are prolific, they would have utterly disappeared.

Their spawning season is in the spring, up to the middle of summer, and is a short one. The hatching of the eggs is rapid. In the spawning season, the heads of the minnows are covered with small whitish knobs, osseous in character. These appear just before, and then disappear soon after, the fish have spawned. They are supposed to act as a

---

## FOREST, LAKE, AND RIVER

---

protection to their heads, as they are inclined, during spawning, to thrust their heads between pebbles, while their tails stand up perpendicularly.

All minnows seem shy and timid, but small baits are taken readily. Very small hooks can be used with scraps of meat or worms. At best, this is a tedious method; when getting a supply of bait, a fine-meshed net fastened nearly flat to an iron hoop, say about two feet in diameter, is used; a piece of bait is fastened to the middle; the loop is then lashed to a pole, and the net dropped into the water, and drawn up quickly.

A device called a minnow trap, consisting of a glass barrel with a cone-shaped opening in front, and a perforated piece of tin on the back, with a few cracker crumbs to attract the fish, is by far the best means of capture, and worth the trouble of taking it along as part of one's equipment, for the minnows which are caught in it are of the right size. Into a minnow pail a quantity can be transferred, and the barrel can be left, sunken at some good place, its location being marked by a small float, and it is readily kept filled without the slightest trouble.

When one is in a hurry, a small drag net will bring to land a plentiful supply for a day's fishing. In cooking them, treat them like whitebait, or, if

---

## *MINNOWS*

---

too large, cut off the heads and tails, clean them, and fry with yolks of eggs and spices. It seems to me that minnows as food are neglected in camp by the majority of anglers. I would invite a closer attention to this subject, as, without doubt, this delicate dish would be fully appreciated if only tried.





*FISHING RODS*

---

*AND REELS*

---



## *FISHING RODS*

---

**T**HERE has been very marked improvement in the manufacture of fishing rods during the past twenty years. More attention has been paid to the demands of the angler by the manufacturers, who have, consequently, exercised greater skill and intelligence in supplying tools better adapted to his needs and requirements. This has resulted in shorter, lighter, and better-balanced rods of better material and workmanship than was formerly accorded to this branch of the arts.

The former long and willowy fly-rod of English pattern has been replaced by one shorter, lighter, somewhat stiffer, and with more backbone and power. With the modern rod, the angler can cast a fly fifty per cent farther than with the old style rod. The alteration in the construction of the rod, however, has also changed its action to some extent, and, consequently, the method of casting.

In the old style long and supple rod, bending from grip to tip, its action in casting was necessarily slow and deliberate; while with the modern

---

## *FOREST, LAKE, AND RIVER*

---

shorter, stiffer, and more resilient rod (most of its pliancy being in its upper two-thirds), quicker and more energetic movements are required in casting, though not more muscle, if so much, is exercised in the effort. While the old style was, perhaps, more graceful, the modern style is more vigorous and effective. Conservatism has given place to vim and progress.

The first radical departure in the manufacture of fishing-rods was the introduction of the "Henshall rod" for black-bass bait fishing, a quarter of a century ago. After its superiority to old style long and heavy rods was demonstrated, it became an easy matter to apply the same principles to all other rods.

The material used in the construction of fishing-rods must embody the attributes of strength, lightness, and resiliency. All varieties of close-grained, tough and elastic woods have been experimented with, as ash, hickory, hornbeam, cedar, service-berry, snakewood, willow, lancewood, greenheart, bethabara, etc. As rods are made in several pieces for convenience and portability, it has been determined that a combination of woods is preferable to making the entire rod of any one variety, except in the case of split-bamboo. It has been found that white ash, being light and springy, is



---

## FISHING RODS

---

best adapted for the butt piece, and lancewood, greenheart, or bethabara for the other pieces or joints.

A first-class split-bamboo rod is the *ultima thule* of rod making. In its construction great care and skill are exercised. The material is carefully selected by an expert, as the several sections for a joint must be perfect and of the same weight and bend, in order to secure homogeneity and perfect action. This requires technical skill and intelligence of a high order. But the cheap and shoddy kind sold in department stores is made of refuse cane by unskilled labor, and is sold at a small advance on the cost of production. A hard wood rod at the same price is infinitely better.

The best fishing reels and rods are produced in the United States, for the reason that the manufacturers seek to supply just what the angler demands. On the other hand, the British angler usually accepts without question the tools offered him by their makers, who, with their characteristic conservatism, still adhere to the heavy tackle of their forebears. Some of their split-bamboo rods have steel centres or ribs to add "strength," and for the same reason their fly-lines have wire centres. The British angler is compelled to use them, though his inconsistency is apparent when with

---

## FOREST, LAKE, AND RIVER

---

steel-centred rod and line he uses the finest drawn gut or gossamer leaders and infinitesimal flies for trout and grayling. As a chain is only as strong as its weakest link, this inconsistency looks absurd to the American angler. But our unfortunate brother of the tight little isle cannot help himself, and suffers in silence.

### FLY-RODS

To propel so light an object as a cast of flies one hundred feet or more requires an instrument of propulsion as perfect as a rod can be made. Hence a fly-rod must have stability and power, or backbone, in the lower third of the rod, with sufficient pliancy and flexibility in the upper two-thirds to respond to and augment the initial projective force applied by the arm of the angler. All fly-rods should be made in accordance with this principle; and it is only a question of proportion as between the heaviest salmon rod and the lightest trout rod. It is somewhat on the principle of a long coach whip with a stiffish butt and flexible top, which enables the driver to flick a fly from the flank of a leader in a four-in-hand with ease and precision.

A characteristically American feature in rod making is the flush joint with short, cylindrical ferrule, without dowel, — a great improvement on

---

## FISHING RODS

---

the old English style of dowel and mortise joint. Another American feature, but a bad one, is the solid metal reel-seat, which only increases the weight of the rod, without being of any practical benefit, — a simple groove, with reel-bands, is much better in every way.

Salmon fly-rods were formerly made as long as twenty feet, and weighing several pounds. Of late years, the length and weight have been materially reduced. An up-to-date salmon rod should not exceed fourteen feet in length, nor weigh more than twenty ounces; while twelve feet and sixteen ounces would be better. It should be constructed of split-bamboo, though excellent rods are made with ash butt, and lancewood or greenheart for the upper pieces. As both hands are employed in casting, there should be a grip both above and below the reel-seat, which may be wrapped with cord or rattan, though a cork grip is still better.

Single-handed fly-rods are from nine to eleven feet long, and weigh from three to eight ounces. The heavier rods are for black bass and large trout, and the lightest for small trout. Comparatively light rods are now made powerful enough to cast nearly a hundred feet, and of sufficient strength to kill the largest brook trout. The pleasures of

---

## FOREST, LAKE, AND RIVER

---

angling are much enhanced by the employment of a light rod, which permits the angler to cast for hours without fatigue, whereas with the old long and heavy rod it was at best a labor of love. The best material is split-bamboo, when of first quality, though lancewood, greenheart, or bethabara is more serviceable in the long run, and if made by a master hand is almost as satisfactory, especially for the heavier rods.

### BAIT-RODS

Bait-rods are shorter and stiffer than fly-rods in order that a long initial cast may be made from the reel with a bait, swivel, and sometimes a sinker, at the end of the line. By reducing the length of the rod, the weight is correspondingly decreased, while the rod is really more effective and handier.

Rods for tarpon and tunny, or tuna, are the heaviest and stiffest. They are from six to eight feet, or preferably seven feet in length, and weigh from sixteen to twenty ounces in hard wood. The entire rod may be made of split-bamboo, though in so stiff a rod cheaper material will answer as well, as ash and lancewood or greenheart. Natural male bamboo is lighter and nearly as effective. Double guides, with agate-lined tip, should always be put on such rods, which are

---

## FISHING RODS

---

adequate to the subjugation of such finny giants as tarpon, tuna, and jewfish of two hundred pounds or more.

For surf fishing for striped bass the same remarks will apply as for the tarpon rod, though while of the same length it should be of less calibre and weight, and with considerably more pliancy.

For the smaller striped bass of the estuaries, the rod known as the "Little Giant," a modification of the Henshall rod, is very suitable, and can be used likewise for weakfish, kingfish, blackfish, etc. It is seven and a half feet long, and weighs eight ounces in ash and lancewood.

The standard Henshall rod of eight and a quarter feet and eight ounces, in ash and lancewood, and seven ounces in split-bamboo, was especially designed for black-bass fishing. Some manufacturers deviate from these dimensions to suit the demands of anglers in different localities, consequently it varies from seven to nine feet, and seven to ten ounces. Some black-bass rods are now made as short as six feet, but are used more especially for casting frog bait, overhead. Much of the pleasure of playing a bass in a masterly and scientific way is lost, however, in the use of so short a rod. It is very well adapted for such small

---

## *FOREST, LAKE, AND RIVER*

---

species as rock bass, croppie, perch, etc., where a landing-net is not required.

In my opinion, all rods should have flush, non-dowelled joints, with short, cylindrical ferrules, and a plain grooved reel-seat, with reel-bands, instead of the solid nickel-plated metal reel-seat that is now put on the cheapest rods, in order to give them an attractive appearance to the uninitiated. All bait-rods mentioned, except those for tarpon and heavy striped bass, are intended to be used with one hand.

The four- and six-section split bamboo rod, like the multiplying reel, is an American invention. An old trout fisher, gunsmith, and rod maker, Samuel Phillippe, of Easton, Pennsylvania, made four- and six-strip split bamboo rods as early, certainly, as 1845, one of which is now in my possession. There is no record of a rent and glued-up cane rod in England prior to 1847; and these, like those exhibited at the World's Fair in London in 1851, were composed of but three sections or strips, and continued to be so made as late, certainly, as 1852.

## *FISHING REELS*

---

HAVING been a close student of rods and reels for thirty years, the following remarks are the result of much practical experience, and are offered without prejudice, but with my personal preference.

The earliest mention of a fishing reel that I am aware of is that recorded in the "Compleat Angler" by Izaak Walton, who states, as a matter of hearsay, that a "wheel" was sometimes placed about two feet from the butt of the rod for winding up the line. He did not employ one himself, and probably never saw it used, or he would have been more explicit concerning it. The wheel mentioned was doubtless a solid wooden one, of large diameter, with a deep groove in its peripheral border for the line. Such a winch is in common use to-day in England, and is known as the Nottingham reel.

### *CLICK REELS*

There are three kinds of reels employed in angling: the click reel, the multiplying reel, and the automatic reel. The simplest form is the click reel, which is intended only for

---

## FOREST, LAKE, AND RIVER

---

fly-fishing. Its plan of construction is quite simple, and consists of a narrow spool set in a stationary frame, the spool revolving on a central shaft which has a handle at one end and a small spur wheel at the other. The spur wheel engages with a wedge-shaped pawl, which is held in place and controlled by a circular steel spring, allowing motion in either direction. This constitutes the so-called "click," the office of which is to retard to a certain extent the revolving of the spool. When the spool is rapidly revolving under the rush of an active fish, the click fairly hums—a sound so pleasant to the angler's ear that it is not inaptly styled the "song of the reel."

In my collection of reels is a click reel made by J. L. Sage, of Lexington, Kentucky, in 1848, for black bass fishing, which he used for many years. It differs from the usual plan of click reels in having the spur wheel at the same end of the shaft as the handle, and the wheel is larger than customary. The circular spring is brass, which produces a soft musical sound, and one more agreeable than that of most click reels.

In fly-fishing the click reel is placed near the end of the rod, below the rod hand, and as the line is pulled from the reel by the other hand to lengthen the cast, the click offers just the right



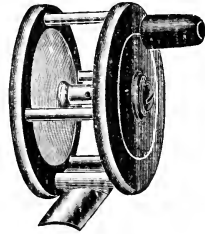
---

## FISHING REELS

---

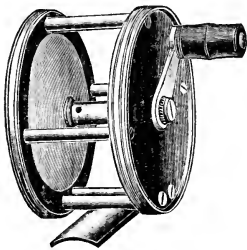
amount of resistance to the revolution of the spool to prevent overrunning of the line; this is one of its functions, the other being to wind up the line.

Its size varies from the large salmon reel to the lightest trout reel. It is made of metal or of metal and hard rubber. The handle is either a plain crank or a balance-handle attached directly to the shaft, or, as in some in-



*Click Reel, with revolving Disk*

stances, especially in salmon reels, a revolving disk is affixed to the shaft, with a short knob-like handle on its outer rim. The latter form is the most



*Click Reel, with Crank Handle and Protective Rim*

powerful; moreover the line is not so apt to become fouled on its short, smooth handle. Should one of the screws that fastens the front disk-plate of the reel become loosened and project, as sometimes happens, it interferes with the free revolution of the crank; such a contingency is obviated

by the revolving disk. Where a crank-handle is employed, there should be a projecting rim, or

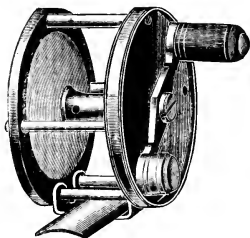
---

## FOREST, LAKE, AND RIVER

---

safety band, within which the handle revolves, to prevent fouling of the line.

The balance-handle is a delusion and a snare. There is no real advantage in it. In so light



*Click Reel, with Balance-Handle  
and Protective Rim*

a piece of machinery as a fishing reel a balance-handle adds nothing to its efficiency, while it is open to several objections, the most serious of which is the greater possibility of fouling the line as compared with the simple crank-handle. It is popularly supposed to aid in the

smooth and rapid revolution of the spool; but if the reel is constructed in a workmanlike manner, such aid is reduced to a minimum. It is one of those theories that is not borne out in practice. It was never designed by a practical angler, and is on a par with the triangle of hooks attached to a trolling spoon, where a single hook is so much better in every way, beside being more humane.

I have a very fine English salmon reel of hard rubber and gun metal that is  $4\frac{3}{4}$  inches in diameter,  $1\frac{1}{2}$  inches in width, and weighs, with the line, 30 ounces. The knob or handle is affixed to

---

## FISHING REELS

---

the revolving disk. From the British point of view the reel is one of the best. My American salmon reel is  $4\frac{1}{4}$  inches in diameter, and weighs but 10 ounces, while it is just as effective as the heavier reel, and certainly much pleasanter to handle. So far as weight and strength are concerned, the usual British salmon tackle is heavy and strong enough, in practised hands, to do battle with the average tarpon or tuna.

From the salmon click reel to the light trout reel is a long step, as some of the latter weigh but two or three ounces. Between these extremes are click reels of various sizes for black bass, trout of the lakes, etc. They vary as much in width as in weight, though the narrower the spool the greater the diameter, in order to accommodate sufficient line. There are styles enough to suit the individual tastes of all anglers however prejudiced, and prejudice is one of the glorious privileges of the guild.

<p><i>MULTIPLYING REELS</i></p>
-------------------------------------

The multiplying reel is an American invention, and was first made by George Snyder of Paris, Kentucky, about 1810. He was a skilful watchmaker and silversmith. As usual, necessity was the mother of this invention. Snyder, being a good black bass

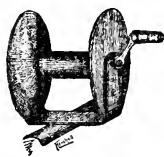
---

## FOREST, LAKE, AND RIVER

---

angler, saw the need of such a reel for casting the live minnow. His first reel, made for his own use, about the date mentioned, was in my possession for some time. It is made of brass, somewhat smaller than the No. 2 Kentucky reel of to-day. The ends of the shaft run on garnet jewels, and it is still in good working condition.

Before Synder's day, the black bass anglers of Kentucky used the single action reel, and sometimes a wooden thread-spool mounted on a brass or iron frame. Many years ago a gentleman named Lewis owned an estate called "Llangollen,"



*Old Wooden Spool*

a few miles from Frankfort, Kentucky, on the banks of the classic Elkhorn, then a famous black bass stream. He was a sportsman of the old school and a frequent contributor to Skinner's "American Turf Register and Sporting Magazine," and later of Porter's "Spirit of the Times." He was the owner of an old spool similar to the one figured which he left in 1842 with Mr. Sage for repairs, and said that he brought it from his old home at Wytheville, Virginia, and had used it for many years. He preferred it to the multiplying reels then being made in Kentucky, and used it for bait-fishing, as well as for fly-fishing, — a striking

---

## F I S H I N G R E E L S

---

illustration of that prejudice, called by courtesy conservatism, of the British angler, for he was no doubt of Welsh extraction judging from his name and the title of his estate. The old spool figured is  $1\frac{3}{4}$  inches wide and long, and may be the spool alluded to, as it came from the archives of Mr. J. L. Sage, an old Kentucky reel maker, who has recently joined the great majority across the silent river.

The principle of construction of the multiplying reel consists of a small pinion on the end of the spool shaft, geared with a larger cog wheel attached to the crank. One revolution of the crank produces two, three, or four revolutions of the shaft, depending on the number of teeth in the wheels; thus, in a quadruple or four-time multiplier, there are, say, forty teeth in the wheel and ten teeth in the pinion. The multiplying reel is designed especially for casting a bait, and the better the construction of the reel, the longer the resultant, initial cast. The spool is wider than in the click reel to permit the use of the thumb in controlling the running of the spool in making a cast.

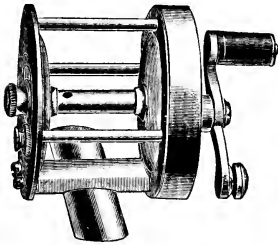
All fine multiplying reels are now made with an adjustable click, in order that they may be utilized for fly-fishing. Various devices are employed for the purpose. In some, the mechanism is on

---

## FOREST, LAKE, AND RIVER

---

the back plate of the reel, as in the click reel, and is the same except that the pawl can be thrown in

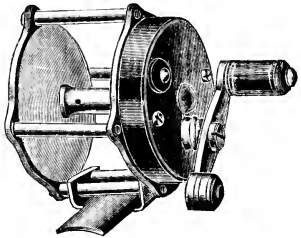


*Multiplying Reel, Adjustable  
Click on Back*

or out of gear by a sliding or turning button.

This is by far the best plan, as it can be operated while the reel is in motion. In other reels, the pawl engages with the pinion on the front plate, and is thrown in gear by the same method as the

other. In most Kentucky reels the click is used more as an alarm, though it can be utilized as well for fly-fishing. It consists of a piece of watch spring, bent to a U-shape, and affixed to a block which is operated by a sliding button. The spring engages with the pinion on the front plate of the reel. Various forms of locks and drags are also applied to some multiplying reels,



*Multiplying Reel, Adjustable Click  
on Front*

which, however, are only of fancied advantage.

Multiplying reels are made in many styles and

---

## F I S H I N G R E E L S

---

different sizes, of metal or metal and hard rubber combined. My collection embraces reels from  $1\frac{1}{2}$  to  $4\frac{1}{4}$  inches in diameter of disk-plate. Among them are works of art by Milam, Meek, and Sage for black bass fishing, and by Julius Vom Hofe for striped bass, tarpon, and tuna. Their price varies from twenty to sixty dollars,—not an extravagant amount when their method of construction is considered. Nothing could be finer than the workmanship exhibited, and the most careful and honest attention is given to every detail of finish and adjustment. With ordinary care they will last a lifetime. I have seen Kentucky reels that have been in constant use for more than half a century.

The teeth of the wheel and pinion of multiplying reels are cut horizontally by nearly all makers. The Meek reel and the Henshall-Van Antwerp reel, however, have the teeth cut obliquely, on the theory that there is less lost motion and more power in this plan of gearing. I have never been able to determine whether there is any real advantage, however, over the horizontal method of cutting the teeth.

I once saw an old Snyder reel that had the ends of the shaft bevelled, and which fitted into corresponding recesses of pivots that screwed into the

---

## *FOREST, LAKE, AND RIVER*

---

centre of the reel plate. By this device the running of the spool could be regulated, and any wear taken up by this compensating contrivance. The Henshall-Van Antwerp reel has this same device. In later years Abbey & Imbrie patented this feature, though their plan differed in reversing the arrangement, the recesses being in the ends of the shaft and the screw-pivots bevelled. Verily, there is nothing new under the sun!

In the early days of reel-making in Kentucky there were a few made with so-called "centrifugal" gearing, where three wheels were used instead of two, with the handle in the centre. The principle is that known in mechanics as the epicycloidal wheel. While the power was, perhaps, greater, the friction engendered was also too great for casting the minnow, and it was abandoned. Not many years ago Wm. Mills & Son patented a reel for fly-fishing on this principle, with the addition of an automatic click. Thus does history repeat itself.

<i>AUTOMATIC REELS</i>
----------------------------

To use a familiar comparison an automatic reel is constructed on the principle of a spring tape-measure, the spring being wound by pulling off the line, and, conversely, the spring winds up the line as the tension is relaxed.



---

## F I S H I N G   R E E L S

---

The barrel of the reel being quite large, the line is taken up rapidly, from which it is evident that there is no probability of a fish getting any slack line with such a reel. It is used principally for trout-fishing, and within its limitations it does its work well after one becomes accustomed to its use. Many anglers are quite enthusiastic in its praise.

It is a *sine qua non* for the one-armed angler, and a boon to the nervous angler whose fingers become all thumbs under the excitement of hooking a good fish. But to the cool and steady hand, the simple click reel is far preferable, as he has the fish always under control, and can feel its every movement; whereas the spring of the automatic reel assumes and arrogates to itself this office, leaving the angler nothing to do but watch the give-and-take contest between reel and fish, until the latter is exhausted. He has allowed a machine to do what should really be a part of his sport, — another power to come between his quarry and himself.

For myself, the greatest pleasure is not the casting of the fly, or the hooking of the fish, but it is the playing and skilful management of the fish from the strike to the landing-net; and I prefer to do this myself, without the intervention or aid

---

## FOREST, LAKE, AND RIVER

---

of an automatic contrivance. I prefer to pit my skill against the wiles and strength of the fish, and give him an even chance. At the same time I have no quarrel with those who think and do otherwise.

One of the most popular automatic reels has been recently improved so that it can be instantly changed from an automatic to a free-running reel by a sliding lever on its face. This permits the use of the reel for casting a bait. It has also a handle for winding the spring, which is a decided advantage.



*SOME WAYS*

---

*OF CASTING ARTIFICIAL FLIES*

---



## *SOME WAYS*

---

### *OF CASTING ARTIFICIAL FLIES*

---

**T**HIRTY years ago the anglers who wished to be called expert had to be able to make a clean figure 8 without snapping off the flies. Not many acquired the method up to the expert point. It was too difficult, and required too much room and effort; the "leisurely happiness" men seek in fly-casting could not be obtained in that way, hence, it made way for the "straight away."

<i>STRAIGHT AWAY CAST</i>
-------------------------------

The casting back and forth, holding the rod perpendicularly, as nearly true over the head as we can, elevating the back cast, that the line may be carried straight out in front, has become universal, more, we think, because a greater length of line can be got out, than because of its beauty or successful taking of fish. Some would rather cast a long line than get fish, yet more fly fishing is done by this method. The sight

---

## FOREST, LAKE, AND RIVER

---

of one hundred feet of line travelling back and forth in a perfectly true form driven by a six ounce rod is indeed a fine exhibition of skill and rod of which any one might justly be proud.

### THE WATER OR SWITCH CAST

This peculiar "style of manipulating" the line is performed thus. Fifty feet of line is reeled from

the reel, the rod tip is then lifted rather quickly to a perpendicular position, an outward quick stroke followed by a rather slow drawing in of the line towards the body until the rod is again perpendicular, makes one complete motion, which, being continued from the line into coils, which increase in dimensions and numbers until a final effort lands the line its entire length on the water. For expert exhibition casting it is very entertaining. It is hardly a practical fishing method.

### THE SIDE CASTING

This cast is, to our mind, the ideal way to handle the line when we wish to "angle," it being carried back and forth at the side instead of overhead. We cast the line twenty feet perhaps, the rod, dropping close to the water, is swung around to the side. When at nearly right angles with the body, it is inclined upwards to "shoulder high," the line

---

## *CASTING ARTIFICIAL FLIES*

---

is “flipped” back, up, and brought around in a whiplash curve underhand, about two feet above the water as the line straightens out. Skimming the water as it does, the flies lightly fall on the water, after the manner of the little disabled natural fly we seek to imitate. We all appreciate this great advantage in winning fish, besides it is artistic. While we may not always successfully deceive the fish, to be expert in its development is gratifying to our vanity. The truly enthusiastic fly-caster dearly loves his art, contenting himself with the lawn, when nothing better offers, on which to wave the beautiful combination of bamboo and silver. To him and his tribe, our hearts go out, he is of us surely.

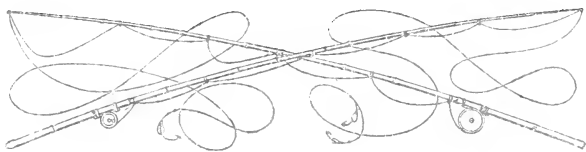
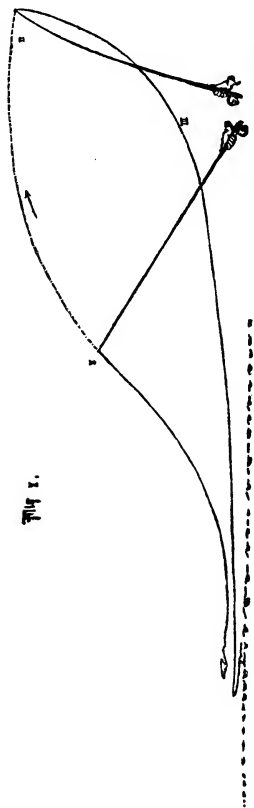


Fig. 1.



*Proper position to take.*

No. 1 indicates the position of the tip at the start.

To make this cast, reel off, through the tip, 50 feet of line into the water. Raise, rather slowly, the rod until it reaches No. 2 (the line will come as in No. 3), then strike quickly back to No. 1, and the line will lay out in a loop as in Fig. 2. Repeat the stroke and, as the line comes in, as rod is raised for the third stroke, a *round* loop will be formed as in Fig. 3 at No. 2.

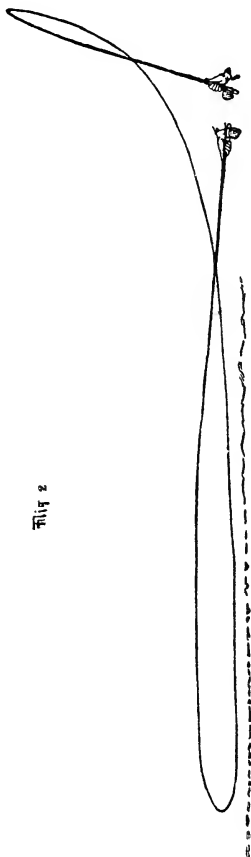


---

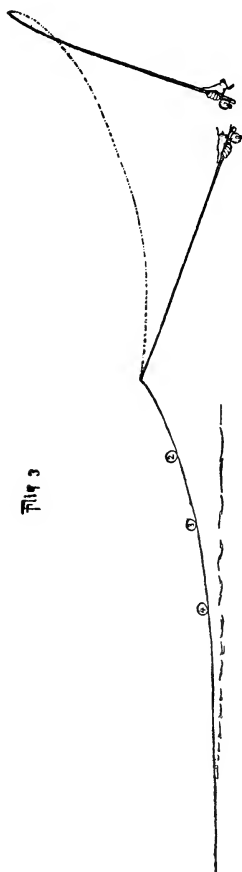
# CASTING ARTIFICIAL FLIES

---

Fig 2



*Shows line settling into the water at the First Stroke.*



At the 5th stroke, loop forms at position indicated (3) and continues to roll, carried by its momentum, until it lays straight out at No. 5.

No. 4. Position of loop at 4th stroke as it settles for the final stroke that is to lay it out flat (the 5th).

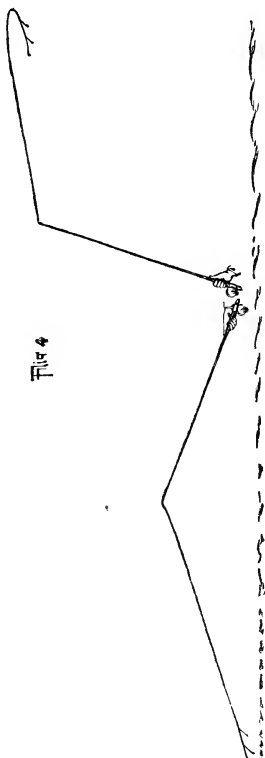
No. 3. Third stroke has moved the loop to this point, about 15 to 20 feet. It will be moved forward at each stroke.

No. 2. Loop forms here at 2d stroke and settles in water, its "hold" on the water furnishes the resistance the rod must have to "spring" it down to its work.

---

# CASTING ARTIFICIAL FLIES

---



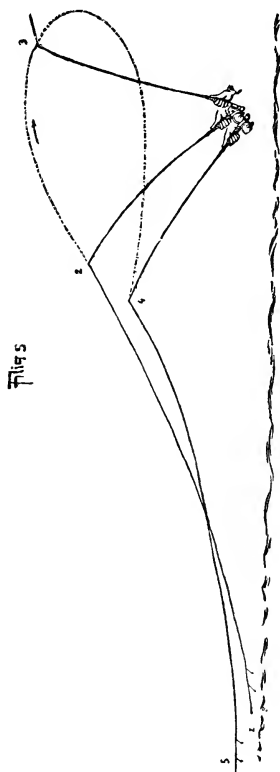
*Over-head cast.*

This is the easiest of all casts. The line is cast out in straight lines in front, the rod is then quickly raised vertically true with the shoulder, the line given a quick "flip" high in back, the rod stopping on a line with the corner of the eye, it should go no farther back. Not much power is needed, "time" being of more importance than power.

---

# FOREST, LAKE, AND RIVER

---



*Dotted lines indicate course of rod.*

- No. 1. Flies leaving for back cast.
- No. 2. Position of rod tip at the start.
- No. 3. Position of rod at the turn.
- No. 4. Position of rod at the end of cast.
- No. 5. Flies falling swiftly to water.

# *TROLLING*

---

TROLLING

SOME SINGLE HOOK LURES







## TROLLING

ALTHOUGH the writer decidedly prefers fly fishing to any other mode of angling, he is not adverse to trolling, with a single hook, when his efforts to induce the fish to rise to his fly have proven unsuccessful. I know there are anglers who deem it sacrilege to take a trout or salmon otherwise than with fly, and claim they can do this any month of the open season. If what I am about to say should, perchance, come to the notice of one such honored member of the brotherhood of anglers, let him know that it is not for him, neither is it for the angler expert in trolling, but to the uninitiated I would offer a few humble suggestions, with the sincere hope that they may serve, in some small measure at least, to add to the enjoyment of his angling hours.

With a proper outfit, trolling is by no means to be despised, as it requires, after the fish is hooked, all the nicety of judgment and careful manipulation necessary in fly fishing. Do not be led astray by the erroneous idea that any kind of a "pole" is good enough for trolling; the bent pin, cotton string,

---

## FOREST, LAKE, AND RIVER

---

and crude sapling, the "fish-pole" of the early days of men now living, have given place to the forged steel, handsomely finished and finely tempered Limerick, Sproat, and other hooks, the braided enamelled waterproof-silk line, and that marvel of ingenuity and beauty, the delicate and resilient split-bamboo rod, which now seems to have attained the summit of the artisan's skill.

Your outfit for this mode of angling should be selected with just as much care and attention to detail as that used by the fly fisherman. Bargain counters and cheap John fishing tackle shops are not the places to purchase fishing tackle, and no angler who fishes *con amore* should allow the temptation of economy to influence him in his selection of an outfit. Do not misunderstand me! I am not advocating an extravagant expenditure, nor the purchase of fishing tackle at fancy or exorbitant prices; but as the artisan's tools should be made of good stuff and fashioned to suit his work, so should your fishing rod be manufactured from the best selected materials, be nicely balanced, of suitable length and weight, and so fashioned as to embody all the requirements that go to make up a weapon that will give the best results, and not disappoint when put to the test of exacting service. At no previous time in the world's history has the science of angling

---

## TROLLING

---

attained higher development than in the present, and at no previous time could the angler provide himself with an outfit more scientifically constructed or better adapted to his requirements. In the early and experimental days of manufacturing these various articles, and because of the limited quantities sold, prices were necessarily high, and the army of fly fishermen has since grown so rapidly as to absorb the supply, and thus the high prices have been maintained,—prices in many instances which were out of all proportion to the cost. A gold dollar is worth one hundred cents, no more, no less.

There is, in my opinion, no wood that enters into rod-making equal to split bamboo, and for trolling, a rod seven and three-quarters feet in length and weighing nine ounces makes an ideal implement. Many a good fish is lost by using a rod that is too stiff. It should be sufficiently pliable and resilient to set the hook in the mouth of the fish without pulling his jaw off. Use a multiplying reel of some standard make, and one hundred yards of braided enamelled waterproof-silk line, size "F" or "G," and of American manufacture. Henry P. Wells, in his excellent work, "Fly-rods and Fly-tackle," says: "If Phariseeism be ever pardonable, it is when a good enamelled waterproof line of American manufacture is compared with the best produced in any

---

## FOREST, LAKE, AND RIVER

---

other country." If not decrepit through age,—and their longevity is far in excess of any other line,—in strength they leave nothing to be desired. Smooth as ivory on the surface, they render through the rings with the minimum of friction.

“Their weight is sufficient to cast nicely without being excessive, and at the same time this is always uniform; while their flexibility is just as it should be, neither so great as to foul the tip, nor so stiff as to cause inconvenience,—in short, they are as nearly perfect as the work of man’s hands is permitted to be.”

Use any trolling bait having a single hook, or a single hook on which is impaled a minnow or other natural lure. All devices with gangs of hooks should be discarded as barbarous and un-sportsmanlike. Possibly you may kill more fish with the “grappling irons,” but if fish is all you are in pursuit of, why not purchase them at the nearest market, and thereby save the expenses incident to a trip to angling waters. There is not much enjoyment in the easy achievement of anything, therefore, when fishing, use tackle that will call into play good judgment and careful manipulation, so that when your fish is finally landed, you can mentally converse with yourself in this wise:—

---

## TROLLING

---

“Old fellow, you put up a plucky fight, and resorted to all kinds of tricks for liberty, but you have been fairly beaten and outwitted in a contest wherein the slightest error on the part of your antagonist would have given you the victory.”

If this noble fish had been hooked with a double or treble hook, and had no possible chance to escape, no matter how awkwardly handled, wherein would be the glory? You might as well shoot a woodcock or jack snipe on the ground, and call it sport. Any country boy could do the same.

Having provided yourself with suitable tackle, the next point for consideration is, how to use it, and where are the fish most likely to be found? It is indispensable to successful trolling that the boat move very slowly, just fast enough to make the bait spin. A “strike” at an artificial bait should be returned immediately, so as not to give the fish time to discover and eject the lure before hooking him. After he is hooked, a taut line is absolutely indispensable to success. Let your fish run when he wants to, and reel in when you find him coming towards you. Do not give him slack line for an instant. When he is sufficiently tired out, and gives up the fight, reel in, use your landing net to lift him into the boat, and be sure he goes into the net head on.

---

## *FOREST, LAKE, AND RIVER*

---

In the early part of the season, when the water is cold, look for the fish in shallow water, or near the surface of deep water. When the season advances, and the water grows warm, they will be found in deep water, and to get down to them it is necessary to use a sinker sufficiently heavy to carry the bait to within two or three feet of the bottom. Landlocked salmon will take the bait a few feet under the surface in the spring, and about half-way between the surface and the bottom later on, as the water warms. Trout will take it near the surface in the spring, and within two or three feet of the surface later. These fish should always be looked for over hard, clear bottoms. Small-mouth bass are in their habits much like the trout, and should be looked for in similar places. Large-mouth bass are found over muddy or weedy bottoms. Pickerel are found in similar waters as the large-mouth bass, but usually in shallow water. When the weeds are coming to the surface of the water, use a short line about thirty feet, and run the bait six inches or a foot under the surface. Perch are everywhere; they take the bait well down.

If this humble effort of mine should prove sufficiently helpful to a worthy brother, and be instrumental in adding anything to the pleasure of his

---

## *TROLLING*

---

angling, I will have accomplished what I most desired; but a great deal of the enjoyment derived by the sportsman in his outings comes from his beautiful surroundings, the pleasure and satisfaction felt from being out of doors, and the recollections incident to sports afield, by lake and stream.





*T A L E S*

---

*T O L D B Y T H E C O O K*

---



# TALES

## TOLD BY THE COOK

WHILE it is true that Brillat-Savarin is a sealed book in many fishing camps, there is no reason why it should be. It is a false theory which holds that a man ceases to be an epicure the moment he becomes hungry. Sportsmen's food can be prepared as skilfully in the camp as it is in the kitchen. There is no necessity for an elaborate menu in camp, but it is quite possible to have a varied one.

The making of coffee is a subject to be avoided in cold type, like the authorship of the letters of Junius or the identity of the man in the iron mask. Every male human being regards himself as a born coffee-maker, regarding with disdain that made by his fellow man. No two amateur chefs make coffee in the same manner, but each is willing to stake his reputation on the quality of his especial decoction. It is a delicate subject and I shall consequently avoid it. But

---

## FOREST, LAKE, AND RIVER

---

the cooking of fish—that is, indeed, another story.

In the first place let me suggest, an absence of tin or iron ware in camp,—apart from the expense, aluminum ware is the most desirable. It is light and clean and is not affected by oxygen or acids. For convenience in packing that awkward utensil, the frying pan should be fitted with a handle that is removable.

No camp picture is complete without a wood fire, which adds so much to the romance of the situation, but for the practical purpose of dinner getting, and the absence of tears from the eyes of the chef, a quart of kerosene in a modern wickless, blue flame stove, will be found to be a marked improvement over the primitive methods of camp cooking. In addition to ordinary cooking, these stoves can be fitted with a broiler which does its work well, thus obviating continual dependence upon what has not inaptly been termed the curse of America,—the frying pan.

If fish are taken far from camp they are apt to spoil in transit unless proper precautions are taken. They should be cleaned, and packed in river weed, plantain leaves, or grass, if the distance to camp is considerable. A refrigerator basket has been

---

## TALES TOLD BY THE COOK

---

recently invented for the use of sportsmen whose camps are pitched near an ice supply.

Variety in the manner of serving all kinds of fish in camp is surely most desirable. It is my intention to mention briefly certain methods of cooking I have found of decided value, when the noon hour brought with it the hunger of woodland existence, or when at camp the changeless menu of the guide grew a bit tiresome.

Fish with tough skins and those with scales will have a much finer flavor if they are skinned before being cooked. Every fish should first be thoroughly cleansed, and washed two or three times in clean water so that all vestige of slime or blood is removed.

Small fish like brook trout should be thrust upon the sharpened ends of a branch and toasted by constant turning, over the embers of a hot fire, or broiled over the wickless blue flame in the absence of a wood fire. Larger fish can be planked. In this process the fish is slit the entire length of the body, and the head, tail, and fins removed. It is then spread wide open and laid on a piece of board or thick bark, so placed that the heat from the fire is thrown directly upon it. Pepper, salt, and butter now should be used with discretion.

---

## *FOREST, LAKE, AND RIVER*

---

In frying fish, first try out bacon fat, to which add about one-half the quantity of butter. Subject to a strong heat. Drop into the dish the fish that have been washed and dried, turn them from time to time, and when the tails curl upward, they are ready. They can be served on pieces of birch bark.

In a kettle or pail of water over the fire, place a few slices of pork, cut the fish in pieces and boil for half an hour or so.

Build a fire on the sand and keep it burning briskly for at least an hour. Take a fairly good-sized fish, and after cleansing and washing well, place inside of it sufficient butter. Sprinkle with salt and pepper. Now fold the sides together tightly by winding a string about it, roll in birch bark, and tie again so as to exclude all sand. Dig a hole about a foot deep in the hot sand. In this place the fish, and cover with more hot sand, keeping it heated well by covering with hot ashes. The fish will be done to a turn in fifteen or twenty minutes.

After a fish has been skinned, and the backbone taken out, there can be obtained two pieces of firm, good flesh. Wash and dry these. Place on either side a strip of bacon. Put them in a broiler and constantly turn them. Be sure there is plenty

---

## TALES TOLD BY THE COOK

---

of heat. The flesh as it cooks turns white, and the bacon gives it a marked flavor.

When a fish is baked, the stuffing is made of bread, a little onion, butter, and spices. Place in the pan a large lump of butter, just before putting the fish in the oven.

Another excellent mode of preparing fish is to pour into a pan a fair supply of milk, or milk and cream, if possible, add salt, a little red and black pepper, and a good dash of paprika. The oven should be well heated. After the mixture begins to steam, slip in the fish, and, with a large spoon, keep constantly pouring over it the hot milk until it is ready to serve.

In making a chowder, the best rule to follow is this: In the kettle put the milk, potatoes, and onions which have been cut into small pieces. Add pepper, salt, and butter, and a little pork. Allow this to boil gently. If fish have scales, they should be skinned and the choice slices selected. Other fish should be cut up into small portions. Be sure to have enough and use enough. Just before the fish are well cooked, add the crackers. Use these in large pieces.

The small fry which can be taken in a medium net make a fair imitation of white bait. Wash several times in different waters. Have the fat in

---

## FOREST, LAKE, AND RIVER

---

the pan very hot, then quickly pour in the small fish, a few minutes sufficing for their perfect cooking.

Frogs' legs at certain seasons are easily obtainable. Skin the legs, wash and dry, and cook in equal quantities of bacon fat and good butter.

Fish hash. Use what has been left of a baked fish. Chop into fine pieces; add butter, salt, pepper, and an egg. Serve on toast.

Sardines should always be a part of camp supplies. To cook them, carefully remove from the box, place on a broiler and toast over the fire.

It is well to carry along a chafing-dish and a supply of alcohol. In such a dish it is not difficult to prepare some of the dishes mentioned.

Again, sardines can be split, broiled, and then boiled in sherry wine, making a desirable dainty.

Cooking sherry should always be taken to camps where supplies can be readily transported.

These suggestions, while intended to apply more to the preparation of fish mentioned in this work, can also be used in preparing most fresh and salt water fish. It is somewhat beyond the limits of this sketch to enumerate all the various preparations of different foods used in camp life. These have been treated of in many good books on the subject.



---

## *TALES TOLD BY THE COOK*

---

I trust, however, that there may be found some virtue in the directions here given, that will prove satisfactory to my readers when they try them. "May good digestion wait our appetite, and health on both."

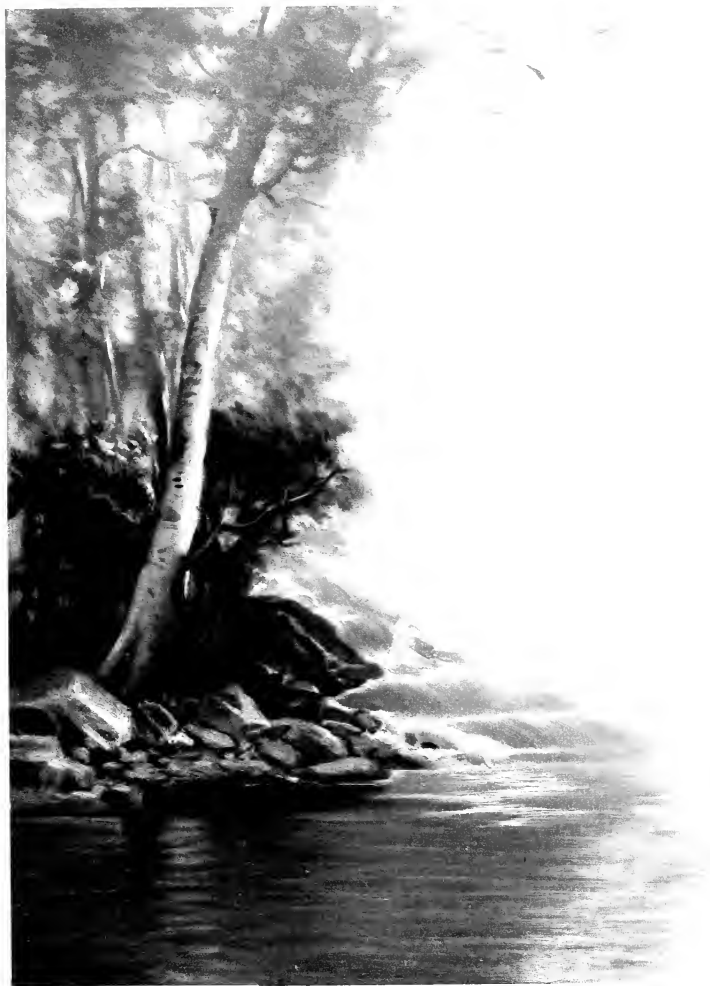




*A FOREST SONG*

---

*A* FOREST SONG





# A FOREST SONG

A. M. JOHNSON.

B. L. WHELPLEY.

*Allegro molto.* VOICE. *p*

Oh fai - ry scene of arch - ing

PIANO. *f* *rit.* *tempo.* *p*

*Ped.* \*

*p*

green, And tink - ling brook - lets way - ward fall - ing: Oh gol - den

*tempo.* *poco rit.* *pp*

sheen . . . the leaves . . . be - tween, . . . The bird . . .

*mf* *mf*

*p*

a - loft so clear - ly call

*Sra*

*cresc.*

*ing.*

*dim.* *rit.*

*f*

*Ped.* \*

'Twixt bough and burn, . . . 'mid vel - vet fern, . . .

*tempo.*

*p*

The ti - ny blos - soms blue . . . are

*p*



bend - ing. Oh hearts . . . . that

yearn . . . . for joy's . . . . re - turn, . . . .

*cresc. en - do.*

Hark ! . . . . the lark to Heav'n as -

*sf. p cresc. f rit.*

end - ing.

*tempo. f p*

*Sra.*

*Ped. \**



# *INDEX*

---



# INDEX

- A.
- Abramis crysoleucas*, II. 278  
*Acipenser brevirostrum*, II. 204  
*Acipenser rubicundus*, II. 203  
*Acipenser sturio*, II. 203  
 A Few Facts and Fancies, I. 265  
 A Knight of Neptune (verse), II. 155  
 A Laker, I. 205  
 Albacore, II. 184  
 Alewife, II. 192  
 Alewives, II. 191  
 Alligator Gar, II. 207  
*Alosa sapidissima*, II. 193  
*Ambloplites rupestris*, II. 101  
*Ameiurus lacustris*, II. 215  
*Ameiurus natalis*, II. 217  
*Ameiurus nebulosus*, II. 216  
*Ameiurus vulgaris*, II. 216, 217  
 American Saibling, I. 151  
 American Sole, II. 260  
*Amia calva*, II. 209  
 A Monarch's Defeat (verse), II. 11  
 Among the Trout of the Kennebec,  
 I. 273  
 Anadromous Trout, I. 129  
 Experience with, I. 137, 140  
 Habits of, 141, 142  
 Where found, I. 129, 135, 139  
 Angling in Canadian Waters, I. 215  
 Brook Trout in Canada, I. 235  
 Coarse Fish, I. 239  
 Fishing for Ouananiche, I. 229  
 Lake Trout in Canada, I. 234  
 Leases of Salmon Pools, I. 225
- Angling (*continued*),  
 Number of Salmon Killed by a  
 rod, I. 226  
 Playing a Fresh Run Salmon, I.  
 224  
 Salmon, I. 215  
 Salmon flies, I. 222  
 Salmon pools, I. 220  
 Salmon rods, I. 222  
 Sea Trout, I. 238  
 Trout flies used, I. 237  
 Trout waters, I. 238  
 Whitefish, I. 234  
*Anquilla chryssypa*, II. 231  
 A Plea for the Single Hook, II. 267  
 Arctic Charr, I. 102  
 Arctic Grayling, I. 283  
*Argentinidae*, II. 167  
*Argyrosomus*, I. 7  
*Argyrosomus artedi*, I. 8  
*Argyrosomus hoyi*, I. 8  
*Argyrosomus nigripinnis*, I. 9  
*Argyrosomus prognathus*, I. 9  
*Argyrosomus tullibee*, I. 9  
 A Song of Scotland (verse), I. 183  
 A String of Sunfish (verse), II. 111  
 Automatic Reels, II. 314  
*Auxis thazard*, II. 184
- B.
- Bachelor, II. 98  
 Bait Rods, II. 302  
 Banded Pickerel, II. 3  
 Bergall, II. 258  
 Best Flies for Black Bass, II. 134

# INDEX

- Big-Eyed Herring, II. 192  
Billed-Eels, II. 207  
Billfish, II. 207  
Black Basses, II. 97, 106, 127  
    As game fishes, II. 106  
    Best Flies, II. 134  
    Casting the Minnow, II. 135  
    Fighting qualities, II. 122  
    Fly Fishing, II. 132  
    How to distinguish Species, II. 107  
    Introduced in New England, II. 127  
    Leap, II. 123  
    Opposition to in New England, II. 129  
    Rainbow effect of leap, II. 123  
    Still Fishing, II. 136  
    Trolling, II. 137  
Black Bass of the Rainbow, II. 121  
Blackfish, II. 254, 257  
Black Head Minnow, II. 283  
Black-nosed Dace, II. 279  
Black-spotted Trout, I. 110  
Bloater Cisco, I. 9  
Blob, II. 287  
Blueback Mullet, II. 287  
Blueback Trout, I. 103  
Blue Bream, II. 105  
Blue Cat, II. 214  
Bluefish, II. 254, 255  
    Angling for young, II. 256  
    Description, II. 255  
    Methods of Fishing, II. 256  
    Various names, II. 255  
Blue-gill Sunfish, II. 105  
    Coloration, II. 105  
Blue Herring, II. 191  
Blue Perch, II. 258  
Blue-spotted Sunfish, II. 105  
Blunt-nosed Minnow, II. 278  
Bonito, II. 185  
Bowfin, II. 209  
    Description, II. 209  
    Dogfish, II. 209  
    Grindle, II. 209  
    Johnny Grindle, II. 209  
    Lawyer, II. 209  
    Mudfish, II. 209  
    Parental love, II. 210  
    Size, II. 210  
    Spawning season, II. 210  
Branch Herring, II. 192  
Bream, II. 104  
Brindled Minnow, II. 284  
Brook Sucker, II. 224  
Brook Trout that Visit Salt Water, I. 129  
*Brosme brosme*, II. 263  
Brown Trout (see Trout), I. 179  
German Trout, I. 108  
Bullhead Minnow, II. 287  
Butterfish, II. 254  
  
C.  
Calico Bass, II. 97, 98  
Campbellite, II. 98  
Candle Fish, II. 167  
Capelin, II. 168  
*Carpiodes thompsonii*, II. 223  
Carps, II. 245  
    As a rod fish, II. 246  
    As a table fish, II. 245  
    Introduction, II. 245  
    King or Mirror, II. 246  
    Leather, II. 246  
    Methods of fishing, II. 246  
    Scaled, II. 246  
Casting Artificial Flies, II. 319  
    Diagrams of Casts, II. 322-326  
    Side Casting, II. 320  
    Some ways of Casting, II. 319  
    Straight away Cast, II. 319

---

# INDEX

---

- Casting the Minnow, II. 135  
Catching the Smelt, II. 173  
Catfishes, II. 213  
    As rod and table fish, II. 221  
    Common Bullhead, II. 216  
    Description of Bullhead, II. 216  
    Description of Channel, II. 214  
    Description of Mississippi, II. 215  
    Description of Stone, II. 218  
    Description of Yellow, II. 217  
    Flannel-mouthed, II. 215  
    Florida, II. 215  
    Great Forked-tail, II. 215  
    Mathemeg or Ugly, II. 215  
    Mississippi, II. 215  
    Of the Lakes, II. 215  
    Species in New England, II. 213  
    Stone, II. 218  
    Vermont, II. 216  
    Yellow, II. 217  
Catfish as a rod and table fish, II. 221  
Catfishes of the Lakes, II. 215  
*Catostomidæ*, II. 223  
*Catostomus catostomus*, II. 224  
*Catostomus commersonii*, II. 224  
*Centrarchidæ*, II. 97  
*Chænobrītus gulosus*, II. 102  
Channel Cat, II. 214  
Charr-trouts, I. 3  
Chinook Salmon, I. 5  
*Chrosomus erythrogaster*, II. 277  
Chub Mackerel, II. 181, 183  
Chub Sucker, II. 226  
Ciscoes or Lake Herrings, I. 3, 7, 8  
Click Reels, II. 305  
*Clupea*, I. 6  
Codfishes, II. 260  
    Codlings, II. 264  
    Cusk, II. 263  
    Four-bearded Codlings, II. 264  
    Fresh Fish, II. 261  
    Codfishes (*continued*),  
        Haddock, II. 262  
        Hake, II. 263  
        New England and Canadian  
            Coasts, II. 260  
        Pollack, II. 262  
        Ling, II. 263  
        Squirrel-hakes, II. 264  
        Three-bearded Codlings, II. 264  
        Tomcod, II. 261  
        visiting fresh water, II. 261  
    Codlings, II. 264  
    Columbia Salmon, I. 5  
    Common Bullhead, II. 216  
    Common or American Eel, II. 231  
    Common Mackerel, II. 181  
    Common Red Horse, II. 228  
    Common Sturgeon, II. 203  
    Common Sucker, II. 224  
    Common Sunfish (see Sunfishes), II. 103  
        As a rod fish, II. 104  
        Coloration, II. 104  
        How to Distinguish, II. 104  
    Common Whitefish, I. 6  
    Copper-nosed Sunfish, II. 105  
    *Coregonus*, I. 5  
    *Coregonus clupeiformis*, I. 6  
    *Coregonus labradoricus*, I. 7  
    *Coregonus quadrilateralis*, I. 6  
    *Coregonus richardsonii*, I. 6  
    Crapet, II. 98  
    Crappie (see Strawberry Bass), II. 98  
        As an Angler's fish, II. 98  
        Habits, II. 98  
        Range, II. 98  
        Various names, II. 98  
    Crawl-a-bottom Sucker, II. 225  
    Creek Chub, II. 276  
    Creek Fish, II. 226  
    *Cristivomer namaycush*, I. 105  
    Cusk, II. 263

# INDEX

- Cut-lip Chub, II. 284  
Cut-throat Trout, I. 110  
*Cynoscion regalis*, II. 254
- D.
- Darters, II. 281  
Day with Mascalonge II. 15  
Differentiation between Charrs and Salmon Trouts, I. 107  
Differentiation of the Pikes, II. 5  
Distribution of Fishes, II. 251  
Dogfish, II. 209  
Dogfish Minnow, II. 280  
Dollarder, II. 105  
Dublin Pond Trout, I. 101, 163  
Description of, I. 163  
Habits of, I. 164
- E.
- Easter Mackerel, II. 183  
Eastern Pond Pickerel, II. 3  
How to identify, II. 6  
Eels, II. 231  
American, II. 231  
As pets, II. 237  
As spawn eaters, II. 235  
Consumption of, II. 238  
Manner of breeding, 232  
Methods of capture, II. 236  
Migrations, II. 238  
Eel-back Flounder, II. 260  
Ellwife, II. 192  
*Enneacanthus obesus*, II. 103  
*Erimyzon sucetta*, II. 226  
*Etrumeus sardina*, II. 190  
Eulachon or Candle-Fish, II. 167  
*Eupomotis gibbosus*, II. 103
- F.
- Fall Herring, II. 192  
Fascination of Salmon Fishing, I. 35  
Fat-back, II. 255  
Fat-head Minnow, II. 278  
*Felichthys marinus*, II. 213  
Fine-Scaled Sucker, II. 224  
Fishes that visit Upper Tidal Waters, II. 251  
Fishing Reels, II. 305  
Fishing Rod, II. 297  
Fishing Rods and Reels, II. 295  
Flannel-mouthed Cat, II. 215  
Flatfishes, II. 259  
Florida Cat, II. 215  
Flounder, II. 254  
American Sole, II. 260  
Eel-back, II. 260  
Four-spotted, II. 260  
Hog Choker, II. 260  
Rusty Dab, II. 260  
Sand Dab, II. 260  
Species on New England Coast, II. 259  
Summer, II. 259  
Window-pane, II. 260  
Winter, II. 259  
Wrongly called "Fluke," 260  
Fly Fishing, I. 257  
Flies to be used, I. 258  
Fly Book, I. 257  
For Trout, I. 260  
Fly Fishing and the Reasons Why, I. 257  
Fly Fishing for Black Bass, II. 132  
Fly-Rods, II. 300  
Fluke, II. 260  
*Fontinalis*, I. 4  
Foreign trouts introduced, I. 108  
Forest Song, A (verse), II. 349  
Four-bearded Codlings, II. 264  
Four-spotted Flounder, II. 260  
Fresh-water Fishes that visit Salt Waters, II. 252  
Fresh-water Gars, II. 207  
Alligator Gar, II. 207



# INDEX

## Fresh-Water Gars (*continued*),

- Billed-eels, II. 207
- Billfish, II. 207
- Description of Common Species, II. 207
- Gar-pike, II. 207
- Long-nosed, II. 207
- Needle-Fish, II. 207
- Short-nosed, II. 208
- Species Common in New England, II. 207
- Frigate Mackerel, II. 184
- Frost Fish, II. 261

## G.

- Gadus callarius*, II. 261
- Gar-pike, II. 207
- Gaspereau, II. 192
- German or Brown Trout, I. 179
- Gizzard Shads, II. 243
- Glass-eye Pike (see Pike Perch)
- Goggle-Eye, II. 101
- Golden Eyes, II. 241
- Golden Shiner, II. 277
- Grande Décharge, I. 20
- Graylings, I. 283
  - Arctic Species, I. 283
  - Coloration of Michigan Species, I. 284
  - Disappearing in Michigan, I. 284
  - Habits of Montana Species, I. 291
  - Michigan Species, 284
  - Montana Species, I. 285
  - Montana Species hardy, I. 285
  - Transplanted, I. 293
- Great Forked-tail Cat, II. 215
- Great Lake Trout, I. 3, 105
- Greenland Charr, I. 101
- Green Sunfish, II. 105
- Grindle, II. 209
- Gymnosarda*, II. 184

## H.

- Haddock, II. 262
- Hake, II. 263
- Hammer Head Sucker, II. 225
- Henshall Rod, II. 303
- Herrings, II. 189
  - Alewife, II. 192
  - Alewives, II. 191
  - Big-eyed, II. 192
  - Blackback, II. 192
  - Blue, II. 191
  - Blue-back, II. 192
  - Branch, II. 192
  - Ellwife, II. 192
  - Fall, II. 192
  - Gaspereau, II. 192
  - Glut, II. 192
  - Hickory Shad, II. 192
  - Kyack, II. 193
  - Mattowacca, II. 192
  - New York Shadine, II. 191
  - Numbers of, II. 190
  - Saw-belly, II. 193
  - Shad, II. 193
  - Skipjack, II. 191
  - Species of, II. 190
  - Summer, II. 193
  - Tailor, II. 192
  - Wall-eyed, II. 192
- Hickory Shad, II. 192
- Hiodon tergisus*, II. 241
- Hog-choker Flounder, II. 260
- Hog Molly, II. 73
- Hog Molly Sucker, II. 225
- Hog Sucker, II. 225
- Holderness Hatchery, I. 188
- Horned Dace, II. 276
- Howeittoun Fishery, I. 188
- How the Trout Season Opened (verse), I. 251
- How Trout Take the Fly, I. 243

# INDEX

- I.
- Ictalurus punctatus*, II. 214  
Inconnu, I. 3
- J.
- Johnnie Grindle, II. 209
- K.
- Kieye Cisco of Lake Michigan, I. 7  
Kill of a King, the, I. 59  
Killifish, II. 284  
Kingfish, II. 181  
King or Mirror Carp, II. 246  
King Salmon, I. 5  
Kiver, II. 104
- L.
- Lac de Marbre Trout, I. 105  
Lake Carp or Drum, II. 223  
Lake Herring, I. 3, 8  
Lake Sturgeon, II. 203  
Lake Trout, I. 106, 234  
    In Canada, I. 234  
    Various names, I. 106  
Lamper Eel, II. 282  
Landlocked Salmon, I. 4, 18  
    Habitat of, I. 18  
    Of the Lake St. John's Region,  
        I. 20  
    Of Sebago Lake (Maine) and  
        other waters, I. 18  
    Original habitat, I. 19  
    Weight of, I. 18-19  
Landlocked Smelts, II. 169  
Large-mouthed Black Bass (see Black  
    Bass), II. 109  
    As a game fish, II. 106  
    Coloration, II. 109  
Large-scaled Sucker, II. 228  
Lawyer, II. 209  
Leather Carp, II. 246  
*Lepomis auritus*, II. 104  
*Lepisosteus osseus*, II. 207  
*Lepisosteus platostomus*, II. 208  
Little Pickerel (see Pikes) II. 3  
    Description of, II. 5  
    Range of, II. 4  
    Size, II. 4  
Little Red-eye Sunfish, II. 105  
Loch Leven Trout, I. 108, 187  
    Coloration, I. 190  
    Distinct Species, I. 194  
    Fighting qualities, I. 190  
    Habitat in Scotland, I. 187  
    Proper food for, I. 189  
    Protection of, I. 192  
    Size of, I. 191  
    When imported, I. 188  
Log-Perch, II. 73  
Long-finned Charr, I. 101  
Long-jawed Cisco, I. 9  
Long-nosed Dace, II. 278  
Long-nosed Sucker, II. 224  
*Luciida*, II. 3  
*Lucioperca*, II. 77  
*Lucius americanus*, II. 3  
*Lucius lucius*, II. 3  
*Lucius masquinongy*, II. 3  
*Lucius reticulatus*, II. 3  
*Lucius vermiculatus*, II. 3
- M.
- Mackerel, II. 254  
    Fishing, II. 184  
    Market names, II. 182  
    Migrations, II. 182  
*Mallotus villosus*, II. 168  
Mascalonge, II. 3  
    Artificial propagation, II. 7  
    Best month to fish, II. 37  
    Description, II. 3, 33  
    Habits, II. 33  
    How to identify, II. 6  
    of the St. Lawrence System, II. 3

# INDEX

- Mascalonge (*continued*),  
of the Mississippi System, II. 3  
Size, II. 33  
Trolling, II. 20, 34  
Two varietal forms, II. 3  
Various names, II. 3  
Mathemeg or Ugly Cat, II. 215  
Mattowacca, II. 192  
Mayfish, II. 284  
*Melanogrammus aegleus*, II. 262  
Menominee Whitefish, I. 6  
Metabetchunan River, I. 20  
Michigan Grayling, I. 284  
Michigan Herring, I. 8  
*Micropterus*, II. 106  
*Micropterus dolomieu*, II. 107  
*Microgadus tomcod*, II. 261  
Miller's Thumb, II. 287  
Minnows, II. 291  
Minnows as Baits, II. 275  
    Black-head, II. 283  
    Black-nosed Dace, II. 279  
    Blob, II. 287  
    Blue-back mullet, II. 287  
    Blunt-nosed Minnow, II. 278  
    Brindled Minnow, II. 284  
    Bullhead Minnow, II. 287  
    Common Sucker, II. 279  
    Creek Chub, II. 276  
    Dogfish Minnow, II. 280  
    Fat-head Minnow, II. 278, 283  
    Golden Shiner, II. 277  
    Horned Dace, II. 276  
    Killifish, II. 284, 285  
    Lamper Eel, II. 282  
    Long-nosed Dace, I. 278  
    Mayfish, II. 284  
    Miller's Thumb, II. 287  
    Muddabbler, II. 285  
    Mud Minnow, II. 280  
    Muffle-jaw, II. 287  
    Mummichug, II. 284  
Minnows as Baits (*continued*),  
    Negro Chub, II. 284  
    Plumbeous Minnow, II. 284  
    Pursy, II. 286  
    Red-bellied Dace, II. 277  
    Red fin, II. 275  
    Rockfish, II. 284  
    Sheepshead Minnow, II. 286  
    Silversides, II. 286  
    Spring Fish, II. 287  
    White Mullet, II. 287  
    Young Catfish, II. 280  
Minnows as a table fish, II. 292  
Minnow Trap, II. 292  
Minor Fishes, II. 201  
*Minytrema melanops*, II. 227  
Mississippi Catfish, II. 215  
Mongrel Whitefish, I. 9  
Montana Grayling, I. 289  
Moon-eye Cisco, I. 7  
Moon-eyes or Golden Eyes, II. 241  
More about Eels, II. 235  
*Morone americana*, II. 142  
*Morone interrupta*, II. 144  
Montana Grayling, I. 285  
Mountain Herring, I. 3  
*Moxostoma anisurum*, II. 227  
*Moxostoma aureolum*, II. 228  
Muddabblers Minnow, II. 285  
Mudfish, II. 209  
Mud Minnow, II. 280  
Muffle-jaw Minnow, II. 287  
Mullet, II. 228  
Multiplying Reels, II. 309  
Mummichugs, II. 284  
My First Experience with a Salmon,  
    I. 27  

N.

Naries Trout, I. 104  
Needle Fish, II. 207  
Negro Chub, II. 284

# INDEX

New Light, II. 98

*Nigricans*, II. 225

Noddi, II. 168

Northern Sucker, II. 224

*Notropis cornutus*, II. 275

## O.

*Oncorhynchus*, I. 14

Oquassa or Blueback Trout, I. 103

*Osmerus mordax*, II. 169

Oswego Bass, II. 107

Ouananiche, I. 4, 69

As a game fish, I. 70

Automatic Reel advocated, I. 88

Compared with the Sea Salmon,  
I. 74

Derivation of name, I. 71

Enemies of, I. 76

Fighting qualities, I. 80

Food of, I. 77

Habitat of, I. 70

Habits of, I. 72

How to handle when hooked, I.  
86

Migrations, I. 77

Number of flies to be used, I. 87

Proper flies to be used, I. 89

Proper rod to use, I. 85

Proper tackle to use, I. 79

Oyster Fish, II. 257

## P.

*Perca flavescens*, II. 71

Perches, II. 59

Species, II. 59

*Percina caprodes*, II. 73

Perch-like Minnows, II. 72

Pickereel, II. 3, 53

Baits, II. 53

Fishing through the Ice, II. 55

Pike, II. 3, 39

Description, II. 4

Pike (*continued*),

Fishing, II. 43

Habits, II. 8

How to identify, II. 6, 40

Range, II. 4

Rapacity, II. 44

Size, II. 39, 41

Wolfe of the Water, II. 49

Pike Family, II. 3

Pike-Perch, II. 5, 59-73, 77-86

Artificial Hatching, II. 79

As an Edible Fish, II. 68, 79

Best lures, II. 63

Best methods of fishing, II. 66

Blue Pike, II. 78

Coloration, II. 81

Distribution, II. 78

Fishing in Labrador, II. 64

Fishing in Minnesota, II. 64

Fishing in rivers, II. 85

Gray Pike, II. 78

Habits, II. 67

Local names, II. 59, 77

Migratory habit, II. 80

Protection, II. 70

Range, II. 60

Size, II. 62

Spawning habit, II. 82

Tackle, II. 63

Trolling, II. 83

Variation in size, II. 80

Why called Doré in Canada, II.

59

Why called Pike-Perch, II. 60

Pilot-fish, I. 6

Plumbeous Minnow, II. 284

Poetry :

A Forest Song, II. 349

A Knight of Neptune, II. 155

A Monarch's Defeat, II. 111

A Song of Scotland, I. 183

A String of Sunfish, II. 111

# INDEX

## Poetry (*continued*),

- A Togue's Remarks, I. 201  
 How the Trout Season opened,  
   I. 251  
 Small Fry, II. 289  
 Smelting Time, II. 171  
 Song of the Leaping Trout, I.  
   167  
 The Aureolus, I. 147  
 The Bullhead, II. 219  
 The Close of Day, Lake Katalah-  
   din, II. 117  
 The Lament, II. 195  
 The Pike, II. 51  
 The Runaway's Summons, I.  
   125  
 The Spike-armed Wights, II.  
   87  
 The Stranger, I. 175  
 The Troll of a Landlocked  
   Salmon, I. 55  
 The Veiled Aurora, I. 159  
 The Wall-Eye, II. 75  
 To a Leaping Ouananiche, I.  
   65  
 To a Trout, I. 115  
 To an Eel, II. 233  
 White Perch, II. 147  
*Pollachius wirens*, II. 262  
 Pollack, II. 262  
*Pomatomus saltatrix*, II. 255  
*Pomolobus*, II. 191  
*Pomolobus æstivalis*, II. 192  
*Pomolobus chrysochloris*, II. 191  
*Pomolobus mediocris*, II. 192  
*Pomolobus pseudoharengus*, II. 192  
*Pomoxis annularis*, II. 98  
*Pomoxis sparoides*, II. 99  
 Porgy, II. 254, 258  
*Prinephales notatus*, II. 278  
 Pumpkin-Seed, II. 104, 113-115  
 Pursy Minnow, II. 286

## Q.

- Quick and the Dead, I. 205  
 Quinnot Salmon, I. 5

## R.

- Rainbow Trout, I. 109-112, 171  
   Action when hooked, I. 172  
   Fishing for, I. 171  
 Red-bellied Dace, II. 277  
 Red Breast Sunfish, II. 104  
 Red-Eye, II. 101  
 Redfin, II. 275  
 Red Sucker, II. 224  
*Rhinichthys cataractæ*, II. 278  
 Richardson Whitefish, I. 6  
*Roccus chrysops*, II. 143  
*Roccus lineatus*, II. 144  
 Rock Bass, II. 97, 101  
   As a rod fish, II. 101  
   Description, II. 101  
   Range, II. 101  
 Rockfish, II. 73  
 Rockfish Minnow, II. 284  
 Rocky Mountain Trout, I. 110  
 Rocky Mountain Whitefish, I. 3  
 Round Herring, II. 190  
 Rusty Dab, II. 260  
 Round Whitefish, I. 6

## S.

- Sacramento Perch, II. 97  
 Sacramento Salmon, I. 5  
*Salio*, I. 13  
*Salmo clarkii*, I. 110  
*Salmo fario*, I. 108  
*Salmo gairdneri*, I. 97  
*Salmoides*, II. 109  
*Salmo irideus*, I. 109  
*Salmo lewneensis*, I. 108  
 Salmon Fisherman's Outfit, I. 37

# INDEX

- Salmon Fishing, I. 33  
 How the fly is taken, I. 41  
 How to Fish, I. 41  
 Leaders, I. 37  
 Outfit, I. 37  
 Rising to the fly, I. 40  
 Uncertainty, I. 38
- Salmon Flies, I. 36  
 Jock Scott, I. 36
- Salmonidæ*, I. 3
- Salmon of the Pool (verse), I. 23
- Salmon Pools, I. 33
- Salmons, I. 3  
 Canadian cases, I. 235  
 Charr-trouts, I. 3  
 Ciscoes, I. 3  
 Description of Sea Salmon, I. 13  
 Flies, I. 222  
 Great Lake Trouts, I. 3  
 Go tail first down stream, I. 265  
 Grilse, I. 16  
 Habits, I. 14  
 Inconnu, I. 3  
 Intelligence of Sea Salmon, I. 17  
 Lake Herrings, I. 3  
 Landlocked Salmon, I. 4  
 Markings when caught in Gill Net, I. 265  
 Mountain Herring, I. 3  
 Number killed to a Rod, I. 226  
 Parrs, I. 13  
 Playing fresh run, I. 224  
 Pools, I. 220  
 Range, I. 13  
 Rocky Mountain Whitefish, I. 3  
 Rods, I. 222  
 Salmon Trouts, I. 3  
 Sea Salmons, I. 3  
 Sea Trout, I. 4  
 Smolts, I. 16  
 Whitefishes, I. 3
- Salmon Rods, II. 301
- Salmon Suggestions, I. 47  
 Equipment for fishing, I. 48  
 How the fly should be manipulated, I. 48  
 How the Salmon takes a fly, I. 49  
 How to play a hooked fish, I. 50  
 When to gaff a Salmon, I. 52  
 When to strike, I. 50
- Salmon Trouts, I. 3
- Salmo salar*, I. 13  
*Salmo salar ouananiche*, I. 18  
*Salmo salar sebago*, I. 18
- Salters, I. 4, 135
- Salt-water Catfishes, II. 213, 214
- Salt-water Fishes that visit Fresh Waters, II. 252, 253
- Salt-water Ling, II. 263
- Salvelinus alpinus alipes*, I. 101  
*Salvelinus alpinus arcturus*, I. 102  
*Salvelinus alpinus aureolus*, I. 102  
*Salvelinus alpinus stagnalis*, I. 101  
*Salvelinus fontinalis*, I. 97  
*Salvelinus fontinalis agassizii*, I. 101, 163  
*Salvelinus oquassa*, I. 103  
*Salvelinus oquassa marstoni*, I. 105  
*Salvelinus oquassa naresi*, I. 140
- Sand Dab, II. 260
- Sand Pike, II. 71  
 Description, II. 71  
 Range, II. 71
- Sarda sarda*, II. 185
- Sauger, II. 71
- Sauk-eye Salmon, I. 5
- Sault Whitefish, I. 7
- Saw-Kwey Salmon, I. 5
- Scaled Carp, II. 246
- Scomber colias*, II. 183  
*Scomberomorus maculatus*, II. 185  
*Scomber scombrus*, II. 181  
*Scomberidæ*, II. 181  
*Scomberidæ cavalla*, II. 181

# INDEX

- Scup, II. 254, 258  
Scuppaug, II. 258  
Sea Basses, II. 141  
Sea Salmon and its Landlocked Con-  
gener, I. 13  
Sea Salmons, I. 3  
Sea Trout, I. 4, 238  
    In Canadian Waters, I. 238  
Sebago Landlocked Salmon, I. 4  
*Semotilus atromaculatus*, II. 276  
*Serranidae*, II. 59, 141  
Shad, II. 193  
    As a rod fish, II. 194  
    Common, II. 193  
    Closely allied to Alewives, II.  
    193  
    New England Shad Rivers, II.  
    197  
    North River, II. 193  
    Obstructions, II. 198  
    Range, II. 193  
    Take a fly, II. 199  
    Shad Waiter, I. 6  
Sheepshead Minnow, II. 286  
Short-nosed Gar, II. 208  
Shovel-nosed Sturgeon, II. 204  
Side Casting of flies, II. 320  
Silverside Minnows, II. 286  
Skipjack, II. 191, 255  
Small Fry (verse), II. 289  
Small-mouthed Black Bass, II. 107  
    Coloration, II. 108  
    Local names, II. 107  
Smelting Time (verse), II. 171  
Smelts, II. 167  
    As an Edible, II. 176  
    Baits and Tackle, II. 173  
    Capelin or Noddi, II. 168  
    Catching, II. 173  
    Common or "American," II.  
    168  
    Landlocked, II. 169  
Smelts (*continued*),  
    Of New England Markets, II. 168  
    Species in New England, II. 168  
Snap-Mackerel, II. 255  
Some Ways of Casting Artificial Flies,  
    II. 319  
Song of the Leaping Trout (verse),  
    I. 167  
Spanish Mackerel, II. 181, 185  
Spotted Sucker, II. 227  
Spring Fish Minnow, II. 287  
Squeteague, II. 254  
Squirrel-Hakes, II. 264  
Squit, II. 254  
Steelhead Trout, I. 97-112  
*Stenotomus chrysops*, II. 258  
Still Fishing for Black Bass, II. 136  
*Stizostedion canadense*, II. 71  
*Stizostedion canadense griseum*, II.  
    71  
*Stizostedion vitreum*, II. 59  
Stone Cat, II. 218  
Stone-lugger Sucker, II. 225  
Stone Roller Sucker, II. 225  
Straight-away Cast of flies, II. 319  
Strawberry Bass, II. 97, 99  
    How to distinguish, II. 100  
    Popular names, II. 99  
    Range, II. 100  
Striped Bass, II. 141, 144, 254  
    Anadromous Habit, II. 159  
    Best Months for Fishing, II. 159  
    Cuttyhunk Fishing, II. 163  
    Description, II. 145  
    Fighting powers, II. 144  
    Fishing, II. 161  
    Large numbers taken, II. 158  
    Maximum sizes, II. 145  
    On Pacific Coast, II. 157  
    Range, II. 158  
    Rods and tackle used, II. 162  
    Spawning habit, II. 160

# INDEX

- Sturgeons, II. 203  
As rod fish, II. 205  
Common, II. 203  
Description of Common Species,  
II. 203  
Description of Lake Species, II.  
204  
Lake, II. 203  
New England Species, II. 203  
Ohio, II. 203  
Red, II. 203  
Rock, II. 203  
Short-nosed, II. 204  
Shovel-nosed, II. 204  
Size of Lake Species, II. 203  
Stone, II. 203  
White, II. 204
- Suckers, II. 223  
As a rod and table fish, II. 229  
Brook, II. 224  
Chub, II. 226  
Common, II. 224  
Common Red-horse, II. 228  
Crawl-a-bottom, II. 225  
Creek fish, II. 226  
Description of Common, II. 225  
Description of Hog Molly, II.  
226  
Fine-scaled, II. 224  
Hammer Head, II. 225  
Hog, II. 225  
Hog Molly, II. 225  
Large-scaled, II. 228  
Long-nosed, II. 224  
Mullet, II. 228  
Northern Sucker, II. 224  
Red, II. 224  
Species in New England, II. 223  
Spotted, II. 227  
Stone Lugger, II. 225  
Stone Roller, II. 225  
Toter, II. 225
- Suckers (*continued*),  
White, II. 224  
White-nosed, II. 227  
Winter, II. 227
- Sucker as a rod and table fish, II. 229
- Summer Flounder, II. 259
- Sunapee Trout, I. 151  
Best trolling tackle, I. 156  
Coloration when Spawning, I.  
154  
Description of, I. 153  
Fighting qualities, I. 157  
Lures for, I. 155  
Primitive habitat, I. 152
- Sunfishes (see Blue-Gill Sunfish), II.  
97-103  
As a breakfast fish, II. 114  
Charles River (Massachusetts)  
form, II. 103  
Coloration of Blue-Gill, II. 105  
Description of Yellow-Bellied,  
II. 105  
Ferocity, II. 114  
Light lower tackle and rods to  
be used, II. 113  
Range, II. 104
- T.
- Tailor Herring, II. 192
- Tales told by the Cook, II. 339
- Tautog, II. 254, 257  
Favorite with Ex-President Cleve-  
land, II. 257  
Size, II. 257
- Tautoga onitis*, II. 257
- The Aureolus (verse), I. 147
- The Bullhead (verse), II. 119
- The Close of Day — Lake Katahdin  
(verse), II. 117
- The Dead, I. 206
- The Lament (verse), I. 195



---

# INDEX

---

- The Mackerels, II. 181  
The Maid of the Mountain, I. 297-313  
The Mascalonge, II. 33  
The Perches, II. 59  
The Pickerel, II. 53  
The Pike (verse), II. 51  
The Pike-Perch, II. 59  
The Quick, I. 209  
The Runaway's Summons (verse), I. 125  
The Shad, II. 197  
The Smelts, II. 167  
The Spike-armed Wights (verse), II. 87  
The Stranger (verse), I. 175  
The Striped Bass, II. 157  
The Sunfishes, II. 113  
The Togue's Remarks (verse), I. 201  
The Veiled Aurora (verse), I. 159  
The Wall-Eye (verse), II. 75  
The Wall-Eyed Pike, II. 77  
Three-bearded Codlings, II. 264  
*Thymallus signifer*, II. 283  
*Thymallus tricolor*, I. 284  
*Thymallus tricolor montanus*, I. 285  
Tinker Mackerel, II. 183  
To a Leaping Ouananiche (verse), I. 65  
To a Trout (verse), I. 115  
To an Eel (verse), II. 233  
Tobacco Box, II. 104  
Tomcod, II. 261  
Toter Sucker, II. 225  
Trolling, II. 329  
Trolling for Black Bass, II. 137  
Troll of the Landlocked Salmon (verse), I. 55  
Trouts of New England and Eastern Canada, I. 95  
    A dainty Feeder, I. 249  
    Baits for Trout, I. 261
- Trouts (*continued*),  
    Best lures in Spring, I. 121  
    Black Spotted, I. 110  
    Brown or German, I. 108  
    Change in Coloration, I. 99  
    Curiosity of, I. 267  
    Cut-throat, I. 110  
    Deep Trolling for, I. 269  
    Description of Brook or Speckled Trout, I. 97  
    Dublin Pond Trout, I. 101  
    Flies used on Canadian Waters, I. 235, 237  
    Fond of Salt, I. 266  
    Foreign Species introduced, I. 96, 108  
    Great Lake, I. 105  
    Habits, I. 98  
    How a large one was caught, I. 268  
    How Hungry Trout take a lure, I. 245  
    How to distinguish Charrs from Salmon Trouts, I. 107  
    How to fish for them, I. 122  
    How to lure, I. 266  
    Lac de Marbre, I. 105  
    Loch Leven, I. 108  
    Long-finned Charr, I. 101  
    Native Species, I. 96  
    Naries, I. 104  
    Oquassa or Blueback Trout, I. 103  
    Pacific Species introduced, I. 97  
    Play with the lure, I. 246  
    Rainbow, I. 109-112  
    Rocky Mountain, I. 110  
    Spawning habits, I. 99  
    Steel-head, I. 97, 112  
    Strike the fly with their tails, I. 243  
    Sunapee, I. 102

---

# INDEX

---

- Trouts (*continued*),  
  Visit Salt Water, I. 4  
  Von Behr, I. 108  
Trout of the Mountain Streams, the,  
  I. 119  
Tullibee Whitefish, I. 9  
Tunnies, II. 184
- U.
- Umbra lini*, II. 281
- V.
- Von Behr Trout, I. 108
- W.
- Wall-Eyed Herring, II. 192  
Wall-Eyed Pike (see Pike-Perch) II.  
  77  
Wannanish, I. 4  
Warmouth Bass, II. 97  
Water or Switch Cast, II. 320  
Weakfish, II. 254  
  As a rod fish, II. 255  
  As a table fish, II. 255  
  Description, II. 254  
White Cat, II. 214  
White Fishes, I. 3, 5  
  In Canadian Waters, I. 234,  
  238  
  Rocky Mountain, Rise to the  
  fly, I. 3  
White Mullet, II. 287  
White-nosed Sucker, II. 227  
White or Silver Bass, II. 141, 143  
  Called Fresh-Water Striped Bass,  
  II. 144  
White Perch, II. 141, 142  
  As an edible, II. 142  
  Fishing for them, II. 142, 149  
  Habits, II. 143  
  Landlocked, II. 149  
White Perch (verse), II. 147  
White Perch — The Landlocked  
  White Perch of Deep Water  
  Lakes, II. 149  
White Sturgeon, II. 204  
White Sucker, II. 224  
Window-pane Flounder, II. 260  
Winninish, I. 4  
Winter Flounder, II. 259  
Winter Sucker, II. 227  
Wrymouth Bass, II. 102  
  Coloration, II. 102  
  Not numerous in New England,  
  II. 102
- Y.
- Yellow Bass, II. 141, 144  
Yellow Belly Sunfish, II. 104  
Yellow Cat, II. 217  
Yellow Perch, II. 71, 91  
  As an edible fish, II. 91  
  Description, II. 91  
  Distribution, II. 72  
  Fishing, II. 92  
  Habits, II. 91  
  Size, II. 72

**T**HIS BOOK WAS PRINTED BY THE  
UNIVERSITY PRESS (JOHN WILSON  
AND SON, INCORPORATED), CAM-  
BRIDGE, MASSACHUSETTS, DURING THE  
SPRING OF NINETEEN HUNDRED & TWO























