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Some Notes on the Fishes

OF WHICH
PHOTOGRAPHS APPEAR IN
THE FOREGOING PAGES . .

BY
WALFORD B. JOHNSON.

Pike—(Frontispiece and page 62). This fish is widely distributed throughout Europe and America. It inhabits both ponds and rivers, where its favourite haunts are the edges of clumps of reeds. It will be readily seen from our photograph how well its mottled yellow and green sides harmonise with the light and shade of such surroundings. This fish is by far the most voracious of all our English freshwater species, preying upon smaller fish, frogs, and in fact anything alive that is not too big to swallow. Jack, pickerel, luce and gedd are local names for this fish.

Common Carp—(pages 6 and 7). Most probably we are indebted to the German Monks of the Middle Ages for these fish. They brought this carp over from the continent to stock the monastery "stews," as they had a high opinion of its edible qualities. Even now it is a common sight in continental markets to see these fish exposed for sale as articles of food. This carp, in common with all the members of the family, is remarkable for the length of time it can remain out of water without suffering any detrimental consequences. The common carp may be distinguished from its congeners by its greyish brown colour, and the presence of two barbels hanging from the lips.

Mirror and Leather Carp (pages 8 and 9) are varieties of the above species in which the scaly covering is abnormally developed. In the former the scales are very large and glisten like a mirror, hence its popular name. The latter is almost bare of scales and on this account has received the name of leather carp.

Red and White Japanese Carp (pages 10-12) are two more varieties of the common species, which they resemble closely in form and habits. They originally came from Japan, but are now common in private waters on the continent.

The **Prussian Carp** (pages 13 and 14) as its name implies first came to us from Germany. In colour and shape it much resembles the common type, but may be at once distinguished from it by the absence of the barbels at the lips. Again the dorsal fin of the Prussian carp has a convex outer edge, while that member in the other is deeply concave.

The Common Gold and Silverfish (pages 15-18), so well known to all who keep aquaria, are closely related to the Prussian carp from which they differ only in colour. They are supposed to have been introduced into this country from China early in the seventeenth century.

The Hybrid Carp (page 19), figured in our illustration is a cross between the common and the Prussian carp. There are no barbels at its mouth, but the dorsal fin is deeply concave. This hybrid is often found in ponds and lakes which contain the parent species.

All these carp are, for the most part, herbivorous, dwelling, as a rule, in ponds and lakes. They obtain their food by grovelling in the mud with their leathery snouts and they all exhibit very gregarious tendencies, swimming always in large shoals. Some of these fish live to a great age and often reach twenty pounds or more in weight.

There are some rather different kinds of small carp, mostly confined to the warmer parts of Asia, which have a single European representative. This is the Bitterling (page 20), which is silvery and roach-like in appearance and is usually found in running water. Our illustration gives a life-sized picture of this little fish.

Gudgeon (pages 21-22), are essentially river fish, preferring clear streams with a gravelly bottom, where they lie in very large shoals. Their colour and markings so exactly harmonise with these surroundings that it is only with difficulty that they can be distinguished from the stones amongst which they lie. Their food consists chiefly of water insects, worms and the smaller creatures which make their homes among the gravel.

There are four of our English fish between which most people find it difficult to discriminate. They are Roach, Dace, Chub and Rudd (pages 23-31). All these are very silvery in appearance and are often very much alike in the colour of the fins. They abound in rivers and often in lakes, swimming in large companies and frequently these shoals contain all four kinds of fish, which renders the task of distinguishing them even more difficult. The red eye and red fins of the roach at once separate it from the dace, and the former is usually a much broader fish than the latter. Chub are very similar to dace, but they may be easily distinguished from one another when it is remembered that the anal fin (*i.e.*, the fin nearest the tail on the under surface) is convex in the chub and deeply concave in the dace. Rudd like roach are broad fish with bright red fins, but there is a difference in the position of the dorsal fin. In the roach that member is placed immediately above the ventral fins (*i.e.*, the paired appendages just in front of the anal fin on the under surface) while in the rudd its position is mid-way between the anal and the ventral fins. The typical rudd has a light olive green back, silvery sides shading off to white underneath and bright red fins. There is however a variety occasionally found which has transparent yellowish fins.

Minnow (page 32). This lively little fish used to be very common in most districts, but it is now almost unknown in some parts where it once occurred in plenty. This is probably due to the fact that many thousands are annually netted to supply the "live-bait" of the angler. This fish is usually found in large shoals in clear streams where it feeds on minute water-life, flies and midges. Our illustration is about life size.

The Golden Orfe (page 33) is a domesticated variety of the ide, a continental fish much like the roach in form and habits. The

colour of this fish is a bright yellowish pink on the head and back shading off into silvery sides and white underneath. The fins are usually pinkish white.

Silver Bream (pages 34 and 35). All bream are characterised by their depth of body, which rises suddenly behind the head; their very narrow breadth, and the length of the anal fin. As its name implies, this bream has a very silvery appearance, and is of so slight a breadth that it is often called the bream-flat. It frequents lakes and sluggish rivers, usually swimming in shoals, and often in company with roach and rudd.

Pomeranian Bream (page 36). The general appearance and habits of this fish are very similar to those of the bream-flat. By some writers it is regarded as a distinct species of bream, but others consider it to be a hybrid between the bronze-bream and the roach. This seems the more likely solution as it bears a great resemblance to the latter. This fish may be distinguished from other bream as it is thicker set and not so deep as the typical members of the family, nor is its anal fin so long. The Pomeranian Bream is very rare in British waters, making its appearance only at unexpected intervals.

Bleak (pages 37 and 38) are silvery little fish somewhat like sprats in colouring and size. They may be readily known from roach and dace by their much longer anal fin. Bleak swim in large shoals near the surface of swift streams, where they feed on flies, midges and almost anything floating down stream that is small enough for them to swallow. The scales of this fish used to furnish the "essence d'orient" employed in the manufacture of artificial pearls.

Tench (pages 39-40) are heavy-bodied fish, dwelling for the most part in stagnant ponds, where they lie in the mud during the day and only venture forth at night to feed. These fish are even more remarkable than the common carp for the length of time they can live out of water. They may be transported from one place to another packed in wet moss and on being returned to the water seem little the worse for the experience. Their food consists of the young shoots of water plants and the smaller life which teems in the mud of stagnant waters.

The Golden Tench (pages 41-42) is a domesticated variety of the Green or Common Tench. It originally came from the continent, but has since been successfully acclimatised in Norfolk and other parts of the British Isles. Its colour and markings are liable to great variation, some individuals being lemon yellow, while others are bright red, like a gold-fish. Some are closely spotted with black, others are quite devoid of any markings. In shape and habits the golden tench is identical with the common species.

Loach (page 43), very much resemble gudgeon in their general appearance, but they have six barbels on the lips while gudgeon have only two. These fish may be found under stones at the bottom of clean shallow streams; they are very shy and retiring in their habits and seldom venture from their hiding places except at night.

The Thunder-fish (page 44), is another loach very common on the continent where it lives at the bottom of ponds half buried in the mud. At the approach of a storm this fish is said to become very restless and leaving the mud, which it seldom quits, swims vigorously about near the surface. On account of this habit of foretelling a storm this loach has been called the Thunder-fish.

This Cat-fish (pages 45-46), which should not be confused with its marine namesake, is a native of North America where it is very common. It is remarkable for the eight long barbels which surround the mouth, and for its very small eyes. Cat-fish are nocturnal in their habits, lying in the mud during the day and feeding usually at night. The skin is slimy, much like that of an eel, and is of about the same colour.

Eels (pages 47-48), are so unlike all other fish that no distinguishing formula is necessary for their identification. They are as a rule carnivorous and particularly voracious, and live in the day-time in the mud, with just their heads visible above it. At night they come out in large numbers to feed, and frequently work great havoc in trout streams stocked with young fish. It is almost impossible to keep the eels out as they will often leave their native waters and travel considerable distances wherever the grass is wet to some neighbouring pond or stream. In living out of water they even surpass the powers of the tench.

Bullhead (pages 49-50), are curious little fish, which inhabit clear streams containing plenty of stones under which they spend the greater portion of their time. On each of the gill-covers this fish has a sharp spike. As soon as it is in danger these spines are thrust outward so that they stick in the throat of any bird attempting to swallow it. As a rule of course the bird quickly ejects its prey, but there are instances of water-birds being choked by these fish. Miller's Thumb is another name for this species.

Perch (pages 51-53), are considered by many to be the most handsome of all our British fishes. The colour is usually a light olive with six transverse bars of a darker tint, while the under fins and tail are a bright red. Perch are the commonest representatives of a family of fishes all of which have two distinct parts to the dorsal fin. The front portion contains stiff rays with sharp spikes at the tips, while the other part consists of the ordinary soft rays like those found in the fins of other fishes. Whenever any member of this family is disturbed it immediately raises this prickly fin, thereby rendering itself a painful morsel to any bird or like enemy. This dodge usually secures these fish immunity from further persecution where other kinds are as easily obtainable. Our illustrations show the perch and pope with their prickly fins erect, as when threatened with danger, and also as usually carried when undisturbed. All the members of the perch family are carnivorous, feeding on smaller fish, worms and water insects.

Pope (pages 54-56), are in many ways similar to perch, but they are of a very sombre brownish tint somewhat like that of a gudgeon. The dorsal fins merge into one another and are not distinct like those of a perch.

Sun-fish (pages 57-58), inhabit the warmer parts of North America and it was from there they originally came to this country. This fish, whose general colour is a mottled bluish tint, may be known from the other basses by the presence on the gill-covers of a spot which resembles the eye on a peacock's feather.

Rock Bass (pages 59-60), or Red-eyes as they are sometimes called, are much like sun-fish, but their ground colour is brownish and the eyes are a bright red. They, too, are inhabitants of North America.

There is another kind of perch found on the continent, and especially in Russia, which, on account of its long narrow body

and voracity has been called the **Pike-Perch** (page 61). This fish will often swallow another fish nearly as big as itself, and the shape of the victim may frequently be made out under the distended skin of its captor. The general colour of this species is greyish green with blotches of a darker tint.

Freshwater Dog-fish (page 63). These little fish, which, when fully grown are about the size of a big minnow, are natives of Southern Europe. There is some superstition attached to them and many people consider their eggs poisonous. Curious as it may seem these fish are not very distantly related to the common pike whose portrait appears as the frontispiece.

Three-Spined Stickleback (page 64). This fish, though one of our smallest, is the most pugnacious of all the English species. Every inhabitant of the pond knows it as a bold fighter, fearlessly attacking creatures many times its own size. In the early spring, it collects a number of pieces of weed and shapes them into a rough nest, which receives the eggs. These are jealously guarded until they are hatched, and during this period their fosterer will viciously charge any animal which approaches too near the neighbourhood of its treasures. Parental solicitude is rather unusual among fishes, but the stickleback is remarkable for the care it takes of its defenceless young. As its name implies it has three spikes on the back, besides two at the sides. These weapons are used in the often mortal combats which are always taking place among these fish. Sticklebacks are found in almost every piece of permanent water in the country, and are unceremoniously captured with a worm and a piece of cotton and called "Tiddlers."

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