

## THE GOLDFISH

By BERTHOLD LAUFER  
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A short while ago I read a play written by an American who is a distinguished physician and gifted poet. The plot of his drama is laid in ancient Greece; and Empedocles, a Greek physician, in depicting the quiet atmosphere of a certain spot in Athens, is made to say, "The very goldfish in the fountain do not stir." I wonder how many readers would be struck by the fact that this statement is a rather crude anachronism; for



Chinese Goldfish Bowl

Rare blue and white porcelain bowl made in two pieces and decorated with lotus leaves. End of seventeenth century. On exhibition in Hall 24.

no goldfish was ever known in ancient Greece, nor anywhere else in Europe, down to the end of the seventeenth century.

Goldfish made their first appearance in England in the year 1691, having been imported from St. Helena. They had come to St. Helena from Batavia, and Chinese settlers who emigrated to Java had brought them along as a reminder of their home country.

Charles Darwin already knew that our goldfish hailed from China, and registered his belief that it has been kept in confinement there from an ancient period. This belief is well founded, and is strongly supported by Chinese records that furnish abundant evidence to this effect. The goldfish is a native of China and still occurs in her rivers in a wild state. It has been brought by the Chinese not only into a complete state of domestication, but also the numerous varieties and the many fantastic and grotesque monstrosities with protruding eyes or with three and four lobed tails are the product of Chinese skill and industry. These varieties were produced not by chance, but by a studied and conscious method of interbreeding.

The experiments to which Chinese fanciers have subjected the fish ever since the eleventh century are practically identical with those carried on by our modern biologists. At that early date they understood the principle of "breeding to a point" to perfection. To hear a Chinese goldfish breeder talk about his schemes and methods reminds one of Darwin and evolutionary theories.

The interesting point about the goldfish is that its domestication has not been actuated by any utilitarian motives, but is solely due to the esthetic tendencies of the Chinese. They have a highly cultivated sense of what is beautiful in nature, which delights in the bright coloration, the graceful forms, and the restless motions of this nimble little creature. In the same manner, the goldfish makes a strong appeal to our own esthetic sense and joy in nature. Moreover, it is of

intense biological interest and a source of endless surprise, as the plastic material of which it is shaped can, within certain limits, be molded into almost anything under the hands of a skilful breeder.

The great variability in the coloring of the skin, as well as in the form of the head, fins, and tail, is the result of many centuries of domestication. The color of the goldfish when first hatched is black. This black pigment disappears in about a year or less to give way to bright colors, which are of various shades between carmine and vermillion and finally assume a golden or silvery hue. In April or May, when the females spawn, the color of the skin turns more brilliant than ever. The Chinese breeders are able to control the time of deposition of eggs.

In China the goldfish is kept in garden ponds or in large pottery or porcelain basins, but never in glass globes such as are used in America. Rocks covered with moss and overgrown with tufts of fern are placed in the basins to provide a cool spot and a retreat from the sunlight. In Buddhist monasteries goldfish are great favorites and kept as pets by the monks who feed them regularly.

Field Museum has on exhibition in Hall 24 a rare and beautiful specimen of a seventeenth century blue and white porcelain jar for goldfish. It is made in two pieces and decorated with lotus leaves. The Museum possesses also a number of Chinese paintings of goldfish.

## PREHISTORIC OWLS

By HENRY FIELD

Assistant Curator of Physical Anthropology

In the cave known as "Trois Frères," which goes deep into a mountain side in the south of France, Count Begouen and his three sons have discovered paintings and drawings by prehistoric artists who lived more than twenty-five thousand years ago.

One of the most interesting drawings shows two small owls which had been scratched by the artist on the wall of one of the large galleries inside the cave. These two little birds are depicted sitting on the limb of a tree looking with wide open eyes at him who dares to break the age-long silence and awaken them from their centuries of total darkness within the cave.

The prehistoric artists only rarely drew or painted birds within their magico-religious sanctuaries, and this is one of the most important examples yet discovered.

Thanks to the kindness of Count Begouen, a photographer, M. Barrère, was allowed to take for Field Museum the first set of photographs ever made within this fascinating cave, during the course of investigations conducted by the recent Marshall Field Archaeological Expedition to Europe.

## Rare Lizard Is Stowaway

Arriving unheralded from south Texas, after making the trip north as a stowaway in a crate of lettuce, an extremely rare plated lizard has been received at Field Museum. The lizard, the scientific name of which is *Gerrhonotus infernalis*, is one of the only two species in its genus which had been previously missing from the Museum's collections, according to Karl P. Schmidt, Assistant Curator of Reptiles. It was presented to the Museum by James J. Mooney of Deerfield, Illinois, who obtained it from a local grocer into whose store it emerged from the crate of lettuce.

Texas plated lizards grow to a length of about one foot. Their most familiar relative is the so-called glass snake, which, having no limbs, is frequently confused with snakes although it is a true lizard.

## THE LONG-HORNED SCULPIN

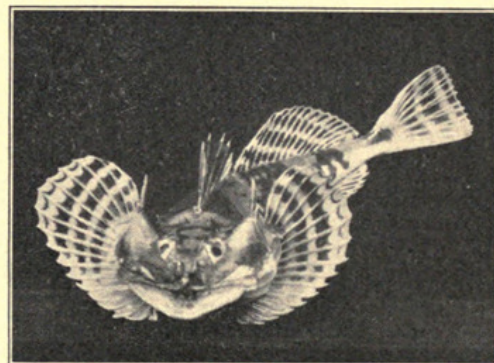
By ALFRED C. WEED

Assistant Curator of Fishes

Those who fish in the harbors or along the shore from Long Island Sound to the Gulf of St. Lawrence are sure to catch many strange creatures. Some will be prized for their beauty and others for their delicate flavor. Some will not be valued at all unless for the possibility that they may be used as bait for something else. The long-horned sculpin is in the latter class. A big head, ornamented with many sharp spines, and a mouth large enough to swallow objects much larger than the small body are hardly things of beauty. The average fisherman does not see the delicately blended colors that change as freely as those of a chameleon, or the beautifully flowing lines of the fins.

In spite of their armament of spines the sculpins are not very quick to attack. They prefer to lie quietly and depend on their color to hide them. When really attacked they use the method of defense sometimes credited to Chinese soldiers of the old regime: they make themselves look especially vicious. Spreading the sides of the head so that the eyes are partly hidden and the spines are made as prominent as possible, the mouth is stretched in a diabolical grin and every fin is spread to the fullest extent. In this position every muscle is so tense that the whole fish quivers with the strain. On the deck of a boat this position may be held for as much as a quarter of an hour.

The color changes of these northern fish are just as complete and just as striking as are those of the fishes of the tropical reefs. When lying in the shelter of a dark rock, covered with barnacles and ornamented with pink, brown or green plants or animals, the sculpin will have a dark ground color with



Long-horned Sculpin

Prepared so as to show its most diabolical aspect. Soon to be placed on exhibition.

spots of white, pink, brown and green. On a patch of green "sea lettuce" it will be all green. On brown kelp it will be all brown. On white sand it may be almost as pale as the sand and seem to be simply a raised place on the ocean bottom or it may be very dark and look like a stone. In any case it will be almost perfectly hidden.

Field Museum recently received some very excellent specimens of the long-horned sculpin from the Marine Biological Laboratory at Woods Hole, Massachusetts. Two of them have been prepared and will soon be placed on exhibition. One is shown in the ordinary swimming position. It is as pale as it would be if about to settle down on a patch of white sand. The other is reproduced in a position that shows extreme disapproval of its surroundings and, both in color and in pose, looks as one would appear if it had just been violently removed from the water.





Laufer, Berthold. 1930. "The Goldfish." *Field Museum news* 1(9), 3–3.

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