

known in Europe, and it is sincerely hoped that the experiment will be productive of beneficial results.—*London Grocer.*

What They Say About Us in India.

Campbell, the poet, in his poem on "The Last Man," has written verses which have attractions for most men, more or less. The Bible tells us the history of the first man, and unsatisfied curiosity peers forward, and wants to know the situation and position of the last man.

Almost numberless have been the speculations on this topic. The raciest of them which we have seen is that which we give elsewhere from the SCIENTIFIC AMERICAN, and to all of our readers who can enjoy genuine humor, based on good scientific knowledge, we commend the perusal of this very clever skit. *En passant*, we may say that for good sound scientific knowledge, clear cut and luminous engravings, combined with ability and liveliness in general conduct, the SCIENTIFIC AMERICAN has no peer. It is *sui generis*. There are English journals which give more scientific matter, but there is none which has such decided characteristics as those that make this publication peculiarly unique. One is sure to know from it the latest results of science put in the most attractive form, realizing, indeed, Tennyson's line:

"The fairy tales of science and the long results of time."

—*Madras Times.*

Ventilation of Soil Pipes.

At a recent meeting of the New York Board of Health it was resolved that soil pipes in tenement houses and vaults, when within twenty feet of any dwelling, should be carefully ventilated by pipes to be laid as the Board directs. After November 1, violations of this resolution will be prosecuted civilly and criminally.

ARCHER FISHES.

The chelmons are a species of fish indigenous to the Indian Ocean. They are divided by naturalists into two varieties, distinguished respectively by the short and long nose or snout, and by the disposition of the very beautiful colors which their bodies exhibit. The short-nosed chelmon has a greenish hue over its body; the fins are green with blue reflections. A black spot surrounded by a pearly white circle appears on the dorsal fin, and on the body itself are bands of blue and mother-of-pearl. The long-nosed chelmon, which is represented in Fig. 1, is of a citron yellow color. There is a large black spot beside the forehead, the front of which is azure blue. The eye is of a bright rose tint; and on the anal fin is a circular spot of black bordered with white.

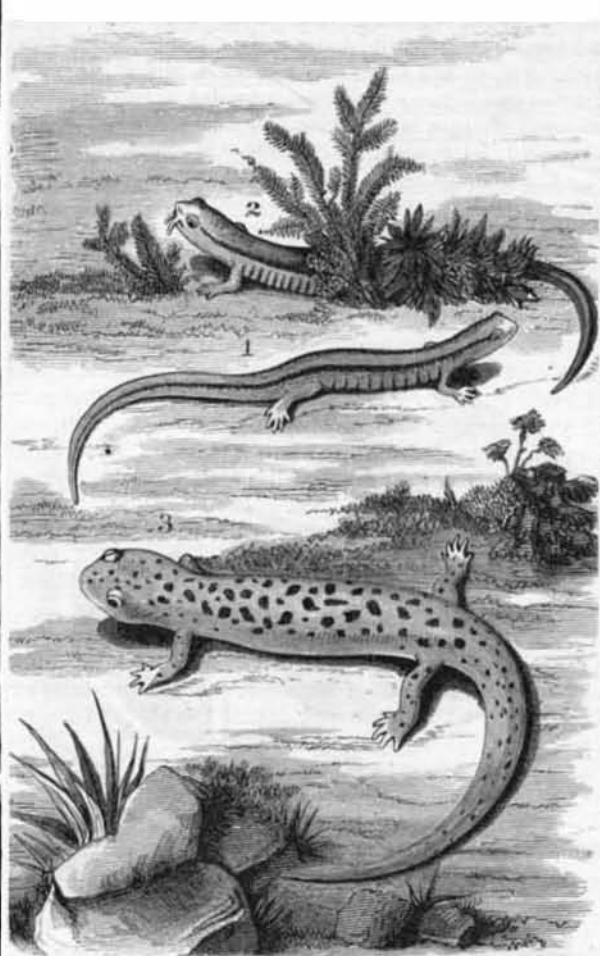
This fish has a singular way of obtaining its food, which has earned for it the name of archer fish or fishpump. It frequents the mouths of rivers, and especially shallow places, in search of the insects which exist on the marine plants, the stalks of which rise a little above the surface of the water. As soon as the fish spies its prey, it approaches cautiously as near as possible, and then, raising its snout above the surface, squirts out a fine stream of water with considerable force and unerring aim. The jet is often projected over a distance of 6 feet. The insect struck is stunned and falls into the water, and there is easily captured by the chelmon.

The representation of another group of archer fishes, and to which this name is more specifically applied, is depicted in Fig. 2. The body is elongated, the line of the back being nearly straight, while the belly is strongly curved. The color is olive brown, or yellow, marked with large oblong spots or bands. Although the mouth of this fish is of entirely different formation from that of the chelmon, it takes its prey in precisely similar manner. The Chinese keep the fish in tanks in their dwellings, as pets, feeding them by presenting the insect on the end of a straw, from which the fish knocks it off by ejecting his water jet.

THE RED AND THE TWO-LINED SALAMANDER.

BY C. FEW SEISS.

You may, perhaps, have seen in some brook or spring, a bright red, lizard-like animal, either lying motionless at the



bottom, or wriggling beneath a stone at your approach, to escape observation. This is the red salamander, Fig. 3, *spelerpes ruber*, Daudin. The whole superior surface of this animal, in life, is vermilion red, thickly spotted with black,

the spots smallest on the head and tail, and disappearing half way down the sides of the body. A few small spots on the under jaw and the legs. Beneath, spotless orange-red. The eyes are prominent, with a golden yellow iris; a dusky spot before and behind the pupil; pupil oval and black. The dark spots on the iris give it a linear appearance. It varies in size; I have seen it from 3½ to 6 inches in length.

Although so bright and pretty during life, a few hours' immersion in alcohol changes its bright vermilion color to a dirty white. It seems nonsensical to label a uniform soiled white, black-spotted animal, the *s. ruber*. Dr. Holbrook says "it is a land animal, and is found under rocks, fallen and decaying trees, etc." This is not the case with the red salamander in Pennsylvania and New Jersey, for I have never seen it captured out of the water. The finest specimen I ever saw was in a spring of cold water, and as the time was the middle of summer, it is not probable it had gone there only to deposit spawn. It can, however, remain out of water for a long time; specimens in our aquarium often remained upon floating objects for several successive hours. It is quite possible it could live in extremely moist situations for months at a time.

The food of the red salamander consists of insects and small earth-worms. In the aquarium it is showy and interesting, but as it is an air-breathing animal, it should be furnished with the means of quitting the water when it is so desired.

Another animal belonging to the same genus as the preceding, and frequently met with in Pennsylvania, is the two lined salamander, Fig. 1, *spelerpes bilineatus*, Green. It is a terrestrial species, but frequents only moist places, and most generally in close proximity to a stream of water or spring.

Occasionally during the breeding season two barbels or cirri appear upon the upper jaw of the male, between the nostrils and the lip. Green's *salamandra cirrigera* appears to be a male of this species thus adorned (see Fig. 2). The use of these barbels is unknown, but they seem to be simply ornamentations, to show, perhaps, when the possessor pays his addresses to the females, that "the sign of man is now upon his chin!"

The young or larva of this, as with other species, are provided with gills, and breathe water only. When the gills disappear it becomes a perfect salamander, and respiration

is performed with lungs. The young *bilineatus* resembles the adult in color, but the colors are less bright, and the lines less distinct. In mature animals the color is brownish yellow above, with a black line on each side beginning behind the eye, extending along the flanks, and lost near the end of the tail. Beneath, bright yellow. It is a small species, rarely exceeding three inches in length. In activity, it far surpasses the red salamander, and you will learn, as I have, "you must be quick with your hand if you wish to catch a *bilineatus*."

Pheasants Poisoned by Shot.

A short time ago the keepers on Sir H Tufton's estate at Ashford, England, noticed a singular mortality among the pheasants. The cause was not immediately discovered, but it was eventually found out that the birds swallowed the splinters from spent bullets lying about on the ground at the range of the local volunteers, which was close at hand. The lead did not produce immediate death, but caused lead poisoning, to which the birds by slow degrees succumbed. Other even more remarkable instances than the above have occurred with pheasants and grouse swallowing shot picked up in the coverts that have been shot, and among the heather, in mistake either for seed or gravel.

Last year a considerable number of pheasants died in one gentleman's preserve alone in Lancashire from this cause, and there is every probability that many of both pheasants and grouse casually found dead from some unknown cause owe their death to picking up pellets in this manner.

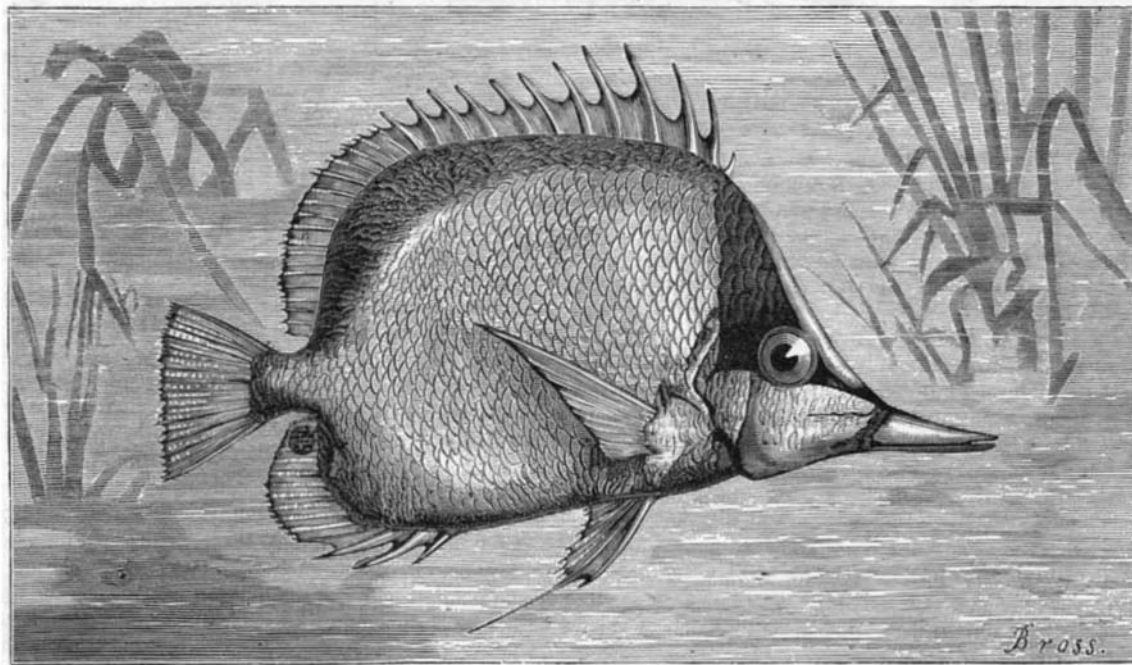


Fig. 1.—THE LONG-NOSED CHELMON.

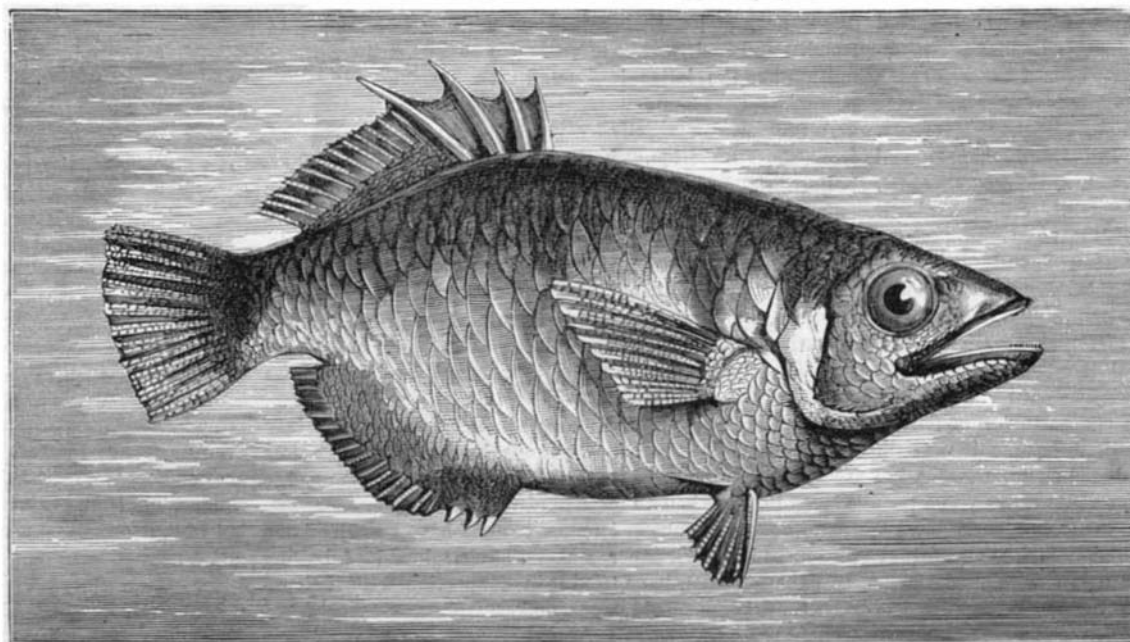


Fig. 2.—THE ARCHER FISH.