

THE TUNNY.

On the shores of the Mediterranean Sea the tunny is found in great abundance, and forms one of the chief sources of wealth of the sea-side population. The flesh is highly esteemed and eaten both fresh and salted. It is extensively used in the Italian countries. It is pickled in various ways, boiled down in soups, and made into pies, which are thought to be very excellent, and possess the valuable property of remaining good for nearly two months. The different parts of the fish are called by appropriate names, and are said to resemble beef, veal, and pork.

The shape of the tunny is not unlike the mackerel, but is larger, rounder, and has a shorter snout. It belongs to the same family as the mackerel. The general average length is about four feet, but sometimes it attains a length of ten or twelve feet. One was recently caught in a mackerel net off Martha's Vineyard, and exhibited by Eugene Blackford, at Fulton market, New York city, that weighed over 700 lbs., and was fourteen feet and ten inches in length. De Kay, in his work, says that Dr. Storer mentions one that was taken near Cape Ann that weighed about 1,000 lbs. These are the largest fish caught in this country, of which we have any information.

The food of the tunny consists principally of smaller fish, although the cuttle fish forms some part of its diet. The color of the upper part of its body is very dark blue, the abdomen is white decorated with spots of a silvery luster. The sides of the head are white.

In May and June the tunnies move in vast shoals along the shores of the Mediterranean, seeking for suitable places to deposit their spawn. They are seen by sentinels, who are on the watch, and nets are prepared for their capture. These nets are of two kinds, one a common seine and the other called a "madrague," the principle of which is very much like that of the "corral," by which wild elephants are captured in India. The outer portions of the madrague intercept the fish, and on their endeavoring to retreat are forced to enter one of many chambers. They are thus driven from one chamber to another until they are forced into the last and smallest, which is significantly called the chamber of death. This chamber is furnished with a floor of net, to which are attached a series of ropes, so that by hauling on the ropes the floor is drawn up and the fish brought to the surface. They struggle fiercely for liberty, but are speedily stunned by blows from long poles, and lifted into boats.

THE LANTERN FLY.

The curious species of firefly known as the *Fulgora Lanterna*, or Lantern Fly, is represented in the annexed engraving. It is a large and handsome insect, with wings varied with black and yellow. The snout is long, straight, and curved upward, and the light is said to emanate from its extremity as from a lantern. It flies high and hovers about the summits of trees. Another species, the *P. candelaria*, of China, is of a greenish color varied with orange and black, with a long snout curved upward.

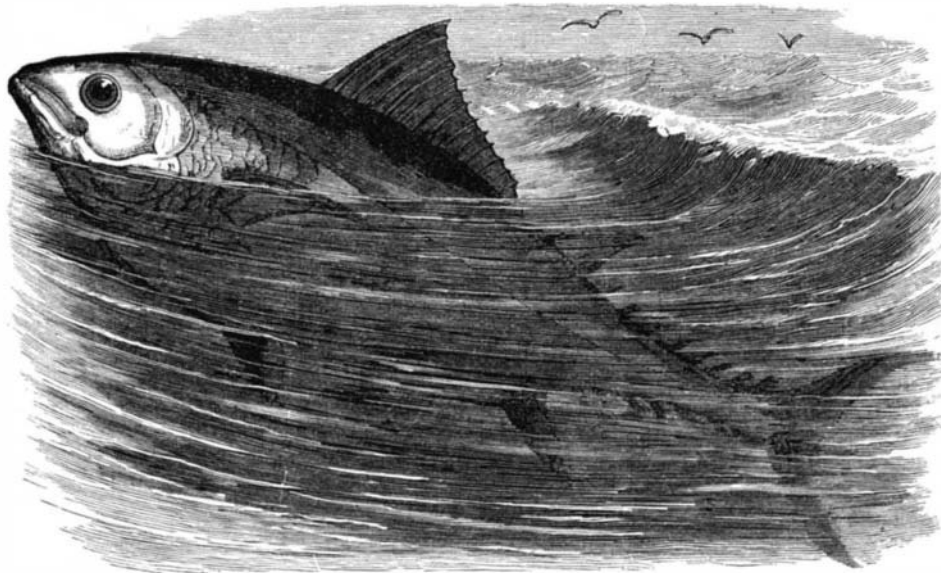
The causes which produce the light in the glow-worm and similar insects have been the subject of much discussion among naturalists. The most recent writers, however, agree that the luminous tissue is made up of fat globules, permeated by numerous tracheæ conveying air, with no traces of nerves or blood vessels. It does not appear satisfactorily determined whether there may not be in this tissue phosphorized fats which give forth light on contact with oxygen, hydrogen or nitrogen. The intermittence of the light is believed to depend upon the movements of respiration, and to be entirely dependent of those of the circulation. It is said that there is no heat accompanying the light, though it be a true combustion and a combination of carbon with oxygen; this may be owing to the rudeness or imperfection of our instruments, or to the slowness or peculiarity of the combustion.

Violet Ink for Rubber Stamps.

A VIOLET ink for rubber stamps is made by mixing and dissolving aniline violet 2 to 4 drachms, alcohol 15 ounces, glycerin 15 ounces. The solution is poured on the cushion and rubbed in with a brush.

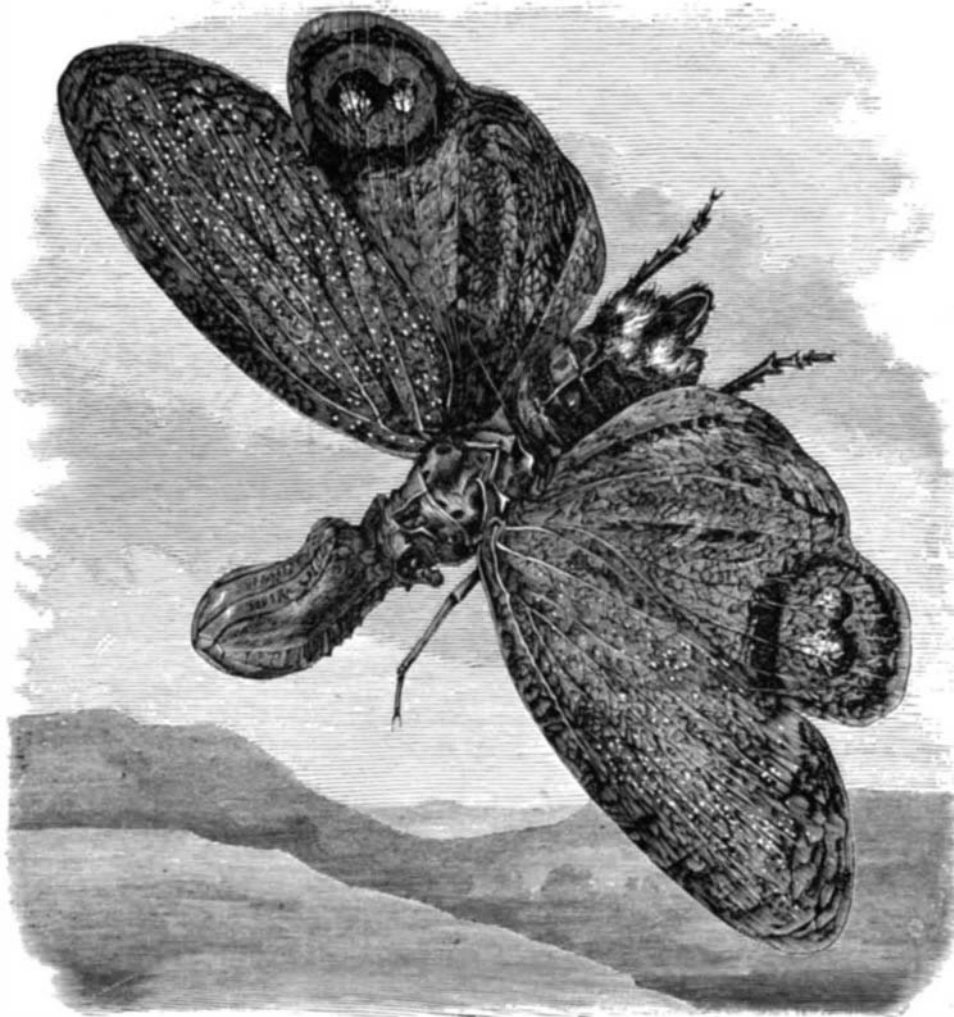
An Ingenious Clock.

The firm of Messrs. Sloane & Co. have in operation a clock which, in addition to being a remarkable instrument, has an electrical attachment which renders it for the purpose it is used, that of rating chronometers, as near perfection as can be. It is not expected that the clock itself can ever come into general use, in view of the fact that it costs about \$1,000, but a description of it is not on that account less interesting. It is called an astronomical clock, with mercurial compensating pendulum. Every time the pendulum vibrates, its lower point, made of platinum, passes through an insulated bulb of mercury, which alternately breaks and connects the circuit of a battery with a little sounder that taps the seconds. To this sounder is attached a little ratchet



THE TUNNY.

wheel with ten ratchets, and at each tap of the sounder the wheel moves one ratchet. At the tenth ratchet a platinum arm goes into a drop of mercury, making a circuit with another sounder, thus giving every tenth second a tap which, being louder than the other, is easily distinguishable. The ten-second sounder is the invention of Mr. Sloane and Commodore Dimpfel, and is now being introduced into the Naval Observatory. It enables the operator at the first rating to rate the chronometer to half a second, and at succeeding ratings to reduce the computation of the error to an infinite fraction, and by it the operator can rate chronometers almost as fast as they are put before him. The convenience lies in



THE LANTERN FLY.

the fact that every tenth second being distinguishable by sound, the clock need not be watched.—*Baltimore American.*

To preserve gum solutions, a few drops of oil of cloves, alcohol, or acid will preserve a quart of the mucilage of gum arabic or gum tragacanth from turning sour. A small quantity of dissolved alum will preserve flour paste.

Military Telegraph Lines Across the Continent.

During the last two years the signal service branch of the government, under the direction of General Myer, has performed considerable work in the extension of military telegraph lines. The United States now runs and operates thirteen hundred miles of wire in Texas, and about fourteen hundred miles in Arizona and New Mexico. Recently, near Santa Fé, New Mexico, the New Mexico and Arizona systems were connected, so there is now a continuous Southern line across the continent. At Santa Fé the Western Union lines running from Denver, Colorado, into New Mexico, connect with the government wires, although the latter operate the line from Santa Fé, New Mexico, to Puebla, Colorado. It is now in contemplation to connect the Texas and New Mexico divisions by building down the Rio Grande from Mesilla, New Mexico, and El Paso to Fort Stockton, Texas, a distance of two hundred and fifty miles. The government wires in Texas connect with the Western Union line from New Orleans and Galveston. The appropriation of \$50,000 for building and repairing in New Mexico and Arizona is almost exhausted, but the actual work accomplished has exceeded the Congressional estimates as to the number of miles that could be built with the sum appropriated.

Lieutenant Reade, under General Myer's direction, has built four hundred miles and rebuilt six hundred miles. The rebuilding consists in putting in new poles to take the place of inferior material, which was hastily put in some years ago. An ingenious method of utilizing the scrubby mesquit wood, in connection with soft and perishable timber like cottonwood and poplar, has been devised. The last-named woods will decay below the surface of the ground in two years' time, but when exposed to the dry atmosphere they will last a great many years. The mesquit is almost impenetrable, but its gnarled, misshapen, and dwarfed nature renders it unfit for use as a pole. In order to utilize both, the mesquit is put into the ground as a stump, and the poplar fastened to it by means of wire clasps and iron spikes.

The military telegraph line is not equal to the Western Union line in point of durability. The wire, however, is of the best class, and the general electrical apparatus is good, but the poles are lighter and shorter. As it was necessary to haul the timber for wire supports over the desert in wagons, the economy of transportation had to be studied, and the material of the country utilized. There is a rumor that the Western Union will purchase from the government the military line from San Diego to Yuma.—*San Francisco Bulletin.*

Red Mountain Iron Ore.

A letter from Birmingham, Ala., to the Louisville *Courier-Journal* says: The Red Mountain range is a solid mass of iron ore of fine quality. At one place the bank has been opened, and thousands of tons were piled up waiting to be transformed into useful articles. A company has been formed in Birmingham, and will shortly erect a furnace and rolling mill and utilize a portion of this deposit. I say a portion, for in the county in which Birmingham is situated I am told that there are twenty-five miles of the Red Mountain range which are nearly all solid ore. In this section of the State the deposits of coal and iron ore are immense enough to supply the world for ages. The question was, could the coal be used to manufacture the iron? Making iron with charcoal was too costly a process. The Eureka Company, composed mainly of Louisville and Cincinnati capitalists, undertook to solve the problem, and established a furnace at Oxmoor, and did solve it in a most satisfactory manner. The coal makes the finest sort of coke.

ON the outlet of Sterling Lakes, in the southwestern part of Orange Co., N. Y., is still in operation the iron works founded by Lord Sterling 25 years before the revolution. The first anchors ever made in America, it is believed, were forged by these ancient works in 1752. The great chain, which was stretched across the Hudson River to obstruct the passage of the British fleet, was made at Sterling Works in 1777. The chain weighed 186 tons, and was six weeks in making. It was transported in links to West Point in carts drawn by oxen. Each link weighed 150 lbs.