Natural History.

THE SWORD BILL HUMMING-BIRD.

This humming-bird derives its name from the singular shape and size of its beak, which is very nearly as long as the rest of the body.

This curious species is rather large, as it measures eight inches in length. It inhabits Santa Fé de Bogota, the Caraccas, and Quito, and is generally found at considerable elevations, having been often seen at a height of twelve thousand feet above the level of the sea. The inordinately long bill is given to this bird in order to enable it to obtain its food from the very long pendent corollas of the brugmansiæ, and, while probing the flowers with its beak, it suspends itself in the air with a tremulous movement of the wings. Its movements are singularly elegant, and while engaged in feeding it performs the most graceful manœuvres as it probes the pendent blossoms, searching to their inmost depths. The nest of this species is hung to the end of a twig, to which it is woven with marvelous skill, and its whole construction is very beautiful.

The adult male bird is colored as follows: the head and the upper part of the body are green, glossed with gold in some parts and with bronze in others, the tints changing according to the light. The wings are dark black-brown with a purple gloss, and the tail is dark black, bronzed on the upper surface. Behind each eye is a small but conspicuous white spot slightly elongated, and there is a broad crescent shaped mark of light green on each side of the neck. The under parts are of a bronze green, and the under tail coverts are flecked with a little white. The female is much the same color as the male upon the upper parts of the body, except that there is a little white upon the lower part of the back and a narrow white line behind the eye. The throat is brown, each feather being edged with gray, and there is a very faint indication of emerald green on part of the throat. The young male is much like the female but is more coppery in his hues. The throat is white, speckled with brown, because each feather is white with a brown tip. At each side of the throat there is a large patch of green, intermingled with white.—*Wood's Natural History.*

A STRANGE PARASITIC FISH.

BY C. F. HOLDER.

Among the marine parasites we find several fishes whose peculiar methods in the struggle for existence are worthy of being recorded; one is the fierasfer, found by the writer in the Bêche de Mer, and the other the attendant of the physalia. Between Bird, Long, and Garden Keys, of the Tortugas group, a large shallow reef sweeps away to the south, fringed on the outside with breakers, and a submerged wall of dead coral and other *débris* washed up from time to time. The clear water within is rarely over four feet deep, some portions being pure white sandy bottom, while other parts are overgrown with large tracts of coral, astreas, meandrina, etc. Here is the collector's paradise. Among the huge heads of meandrina, numerous rare and beautiful fishes move lazily about. The branch coral swarms with radiates and crustaceans, while the sandy bottom and clear water are peopled severally with hordes of creatures adapted for their various surroundings. In drifting over these submarine gardens, new features appear at every step, and with a small coral hook and a pair of grains, enough specimens can be collected in a day to stock a large museum. The most common objects on the bottom are the large black echinus and the bêche de mer. The latter here attain their largest size, and their worm-like forms are seen stretched out in various positions. While drifting over this reef we came upon an extremely large specimen; jumping over we lifted it from the bottom, and were about to throw it into the boat when our attention was attracted by the end of a fish protruding from the mouth of the holothurian. Holding it over a glass jar in the boat, we saw a long, silvery, eel-like fish gradually squirm out of his mouth. It dropped into the water, and after several attempts to swim, sank to the bottom and shortly died. It was about eight inches long, tapering down to the tail, and in color clearly resembling the fishes from the mammoth cave. A delicate dorsal fin extended the entire length of its back, and its whole appearance was eel-like. Suspecting that the fish was a phenomenal parasitic occurrence, we collected other holothurians, and in many of them, after cutting open the thick skin, found the same fish, and in every case it died when exposed to the open water, showing conclusively that it could not live out of the stomach of its protector. Careful examination of the reef, covering a period of eight or nine years, failed to show one of these fishes in any other condition than the above, and its habits, methods of increase, all are as much an enigma as have been some of the habits of our common eel. The fish, doubtless, takes its position in the holothurian when young, and either feeds upon the entrails of the animal or upon the food it takes in; either conditions are possible, as the holothurian, if deprived of a part of its internal machinery every day, could easily reproduce it, and would probably offer no objection, as we have frequently seen them disgorge their entire system, and reproduce a new set.

The holothurian in which this fish is found has for its specific name *Floridana*, and is a large dark brown sea cucumber, with the feet scattered irregularly over the body, and with smaller tentacles than in *Pentacta* of our northern coast. The alimentary canal is often found filled with pieces of shell, corals, etc. It is about three times as long as the body, with longitudinal small folds, and held in place by a large, broad mesentery, which accompanies the intestine throughout the greater part of its length, terminating suddenly in a cæcum much larger than that of the above-mentioned species. In this canal lies snugly ensconced the fierasfer, now feeding on the pieces of coral or mollusca taken in by its host, or in default of this, tearing and lacerating the sides of its self-constituted prison. Its entrance into the alimentary canal of the cucumber may be attended with some danger, as the pharynx of the *Floridana* is calcareous, while in *Pentacta* it is muscular. Another species is found inhabiting the star fish (*Culcita*).

Concerning the methods of reproduction of these animals nothing is known, and the fact that those observed by the writer died upon escaping from the holothurian makes the question still more enigmatical. They undoubtedly seek the protection of the holothurian instinctively when young, and a curious example of quasi-reasoning power in low organisms is evidently shown. The Rev. J. H. Murphy, in his work entitled "Habit and Intelligence," seems to regard instinct as the sum of inherited habits, remarking that "reason differs from instinct only in being conscious. Instinct is unconscious reason, and reason is conscious instinct."

Health and Home.

Bread-Making in Spain.—The bread in the South of Spain is delicious; it is as white as snow, close as cake, and yet very light; the flour is most admirable, for the wheat is good and pure, and the bread well kneaded. The way they make this bread is as follows: From large, long panniers filled with wheat, they take out a handful at a time, sorting it most carefully and expeditiously, and throwing every defective grain into another basket. This done, the wheat is ground between two circular stones, as it was ground in Egypt 2,000 years ago, the requisite rotary motion being given by a blindfold mule, which passes round and round with untiring patience, a bell being attached to his neck which, as long as he is in movement, tinkles on; and when it stops he is urged to his duty by the shout of "*arra mula*" from some one within hearing. When ground, the wheat is sifted through three sieves, the last of these being so fine that only the pure flour can pass through it; this is of a pale apricot colour. The bread is made in the evening. It is mixed with sufficient water, with a little salt in it, to make it into dough; a very small quantity of leaven or yeast in one batch of household bread, as in Spain, would last a week for the six or eight donkey loads of bread they send every day from their oven. The dough made, it is put into sacks and carried on the donkeys' backs to the oven in the centre of the village, to bake it immediately after kneading. On arriving there the dough is divided into portions weighing three pounds each. Two long, narrow wooden tables on trestles are then placed down the room, and a curious sight may be seen. About twenty men, bakers, come in and range themselves on one side of the table. A lump of dough is handed to the nearest, which he begins kneading and knocking about with all his might for about three or four minutes, and then passes it on to his neighbour, who does the same, and so on successively until all have kneaded it, when it becomes as soft as new putty and ready for the oven. Of course, as soon as the first baker has handed the first lump over to his neighbour, another lump is handed to him, and so on until the whole quantity of dough is kneaded by them all. The bakers' wives and daughters shape the loaves for the oven, and some of them are very small. They are baked immediately.—*St. Louis Miller.*

Hysteria.—Many people are distinctly hysterical, but never have a fit of hysterics. We often meet with young women who,