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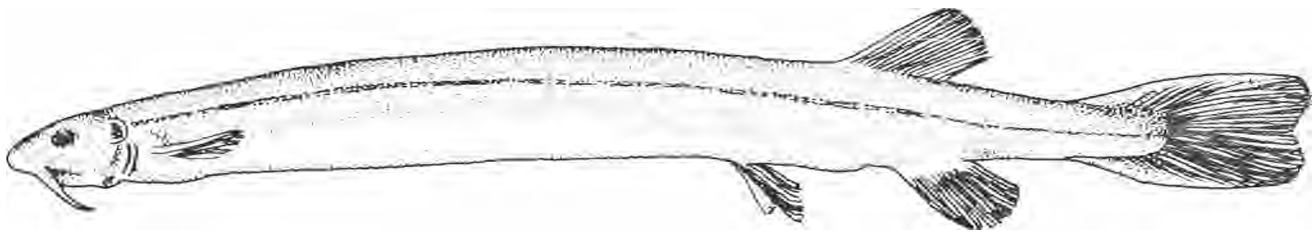
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THE MOST DREADED FISH IN THE AMAZON RIVER

BY CHARLES O. MASTERS



The candiru or vampire fish.

The most dreaded fish in the Amazon River is not the notorious piranha with its razor-sharp teeth, capable of skeletonizing an unfortunate cow or human wading in the water. Nor is it the electric eel, which is quite able to electrocute a person, or one of the many fresh-water sharks which abound in the warm waters.

Instead it is a fish far from ferocious looking and hardly as large as a man's little finger. It is known as the candiru or vampire fish.

The possibility that one could collect specimens of this fish, as well as others of interest but not quite as murderous, has been enough of a stimulus to lure numerous expeditions to the water wonderland of Brazil, the world's greatest natural aquarium.

Dr. George S. Myers of Stanford University, one of the foremost authorities on the fishes of the world, stated in 1947, "Probably fewer than 20 species of catfishes are known from the entire Mississippi Basin. However, in the Amazon Basin, which is not nearly as well known as the Mississippi, over 450 species of catfishes are already recorded and more are being discovered almost every year."

In the shallow tributaries and along the edges of the Amazon, collecting with a seine is usually quite good. Plant life in the river is lush and the fishes colorful and plentiful. Wading, however, is apt to be a little dangerous because of the possible presence of predatory fish.

Some of the beauties filling the nets would bring an extremely high price in

pet stores of our large cities, but getting them there is not too easy and generally rather costly.

The Candiru or Vampire Fish

Fish collectors have to be on the alert for the candiru or vampire fish, undoubtedly the most treacherous to be encountered in any of the waters of the world. It constitutes a very real hazard in many of the streams and rivers of South America in spite of the fact that it is only about the size of a short pencil stub.

In appearance, the fish looks innocent enough, resembling very much salamanders common in local ponds. Their bodies are soft and devoid of any scales, but closer examination will reveal the presence of erectile, rear-pointing spines about the head.

Vampire fish habitually live within the gill cavities of other much larger species such as the catfishes. Their very slender

bodies make it possible for them to penetrate far up between the gill openings. It is here that they begin to do much of their damage. Sharp teeth and spines on their undersides are used to start a flow of blood which is rapidly sucked up, causing the tiny fish to swell to an enormous size.

Unfortunately it isn't only other river inhabitants that suffer as a result of the activities of the candiru. It seems that the species has a strange affinity for human and other animal urine, although this is not definitely known to be the only real reason for the destructive habits of the fish.

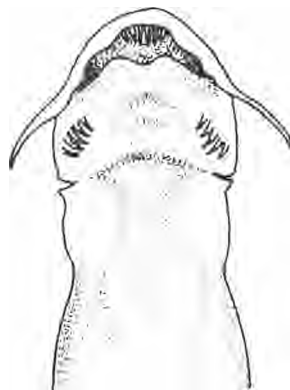
Regardless of the reason, the candiru has a very unpleasant habit of entering the urogenital openings of persons wading or bathing in the rivers. They move far in and attach themselves to the tissue, piercing the skin and gorging themselves on the flowing blood. The spines on the head prevent the fish from being withdrawn once it starts its way inside.

Records of hospitals in the forest areas have numerous case histories which tell about this very real danger existing in the streams. Tales of these unusual fish have come out of the Amazon region for over a hundred years. At first they were discredited as being fantastic, but later it was realized that the stories were true.

In most cases which doctors report, the urinary tract had been attacked, but rumors of entrance into the mouth, ears, nostrils, and anus have been reported, although not definitely confirmed.

It seems that females are especially vulnerable to the attack of this fish but males suffer more, possibly because of the difference in structure of the genito-

(Continued on next page)



Ventral view showing teeth and spines.

urinary organs. The fear element, however, is great in all cases. Blood flow is usually so heavy that the victims become prostrate.

Unless surgery is performed immediately, the attack can prove fatal. Danger from infection is of course ever present. If surgery is not to be resorted to, swallowing the acrid juice from the green fruit of a local tree sometimes drives the fish out of the tract within two hours, but this is not a reliable cure.

Although protective sheaths woven from palm leaf fibers are worn by both men and women bathers over the genitalia to prevent the entering of the fish, they have not been 100% safe and one must be on constant guard when in water where the fish live.

After removal of the candiru from the water, it dies within a very short time. No expedition has succeeded in bringing the fish home for public display. It should, however, be of tremendous interest if for no other reason than that it is the only known vertebrate parasitic on man.

MARINE AQUARIA

Further Comments

Leonard G. Katz, M.D. (10525 Carnegie Avenue, Cleveland, Ohio 44106) has sent us the following comments on "Some Do's and Don'ts for Marine Aquarists," an article by Charles O. Masters which appeared in our issue for November, 1967. Dr. Katz has had two years' personal experience with closed marine biological systems.

"The best container for such a system is an all glass aquarium bonded with Silastic. Most large cities now have such tanks available. Second best is Plexiglass, which is satisfactory but scratches easily. Stainless steels are not satisfactory because the cement is occasionally toxic and the salt water reacts to the stainless steel.

"If marine fish are going to be kept, the minimum size of the aquarium should be 20 gallons and 30 would be even better. A minor toxic problem in a 30 gallon tank is a major one in a 10 gallon tank.

"A specific gravity of 1.025 need not be kept constant. The specific gravity may vary from 1.020 through 1.029 as long as the changes are not rapid.

"Plants and fish do not mix.

"My last comment pertains to the gradual addition of fish to a tank. If this method is followed, each new fish must be kept in a 'hospital aquarium' for one to two weeks to ensure that no new disease is added to your closed system."

New Telephone Number—New trunks have been added to improve telephone service at our Burlington laboratory. In the process, our number was changed. Please jot down our new number and use it on all calls:
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