

Scavenging on human corpses as a source for stories about man-eating piranhas

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Synopsis

Piranhas have a reputation for man-eating, notwithstanding the absence of authenticated records of persons attacked and killed by these fishes. Three cases of piranhas scavenging on human corpses were recorded in Mato Grosso, western Brazil. One corpse, found four days after drowning, was almost reduced to a skeleton. Another corpse was recovered in a few hours, also after drowning, without the soft parts of the head. The third corpse, recovered 20 h after the victim fell into the water due to a myocardial infarction, had flesh only on the trunk. *Pygocentrus nattereri* and, to a minor extent, *Serrasalmus spilopleura* were probably the necrophagous piranhas. Some of the human deaths attributed to piranhas most probably are cases of scavenging on drowned or otherwise already dead persons, by these opportunistic schooling carnivores.

Introduction

Sharks and piranhas share the reputation of being man-eating fishes (Coppleson 1950, Schultz 1964, Myers 1972, Baldrige 1975). However, whereas there are many well-documented shark attacks which resulted in human deaths (e.g. Coppleson 1950, Gilbert 1963, Baldrige 1975), no comparable evidence can be presented for the alleged attacks by piranhas (e.g. Schultz 1964, Markl 1972, Goulding 1980). This latter situation may be due to the remoteness of the places, and absence of eyewitnesses, where deaths caused by piranhas might occur (Myers 1972). On the other hand, under some circumstances a death may erroneously be attributed to piranhas. Here we report on piranhas scavenging on human corpses, in western Brazil, and suggest that this feeding habit is one plausible basis for the man-eating reputation of these fishes.

Methods

During the years 1985–1986 we were able to trace three cases of piranhas scavenging on human corpses. Two instances occurred in the Rio São Lourenço basin (~17°02' S, 56°25' W), and the third near the town of Poconé, (~16°19' S, 56°40' W), both sites in the Pantanal region, Mato Grosso, western Brazil. The cases were reported to the police station in Poconé, where a post-mortem was carried out and the condition of the corpses recorded. Besides this, eyewitnesses were interviewed in the three cases. Photographs of one of the corpses were withdrawn by the victim's family in order to avoid press sensationalism. For similar reasons, photography was not allowed in the other two cases.

Results

In one case, a woman ~ 25 years old drowned after falling overboard from a boat in the main channel of the river. According to eyewitnesses, her corpse was found downstream four days later; it was caught underwater by a branch near the riverbank, and was noticed because of the commotion caused in the water by the aggregation of feeding piranhas. The corpse was almost entirely reduced to a skeleton, with some flesh left only on the left thigh.

In another case, a man ~ 50 years old drowned while crossing a river on horseback. His corpse was recovered a few hours later, without the right ear and cheek, part of the tongue, and most of the right side of the neck. According to eyewitnesses, the corpse was resting on the bottom on his left side, which may explain flesh loss on the right side of the head only. As the corpse remained underwater for a relatively short time, and the victim wore the tough, leather clothing used by the local herdsmen, no other body parts were eaten away.

In the third case, a man ~ 70 years old fell into the water after a cardiac death (myocardial infarction). His corpse was recovered about 20 h after the death, with flesh left only on the trunk, including the shoulders. His clothing was stripped off, with the exception of some remains on the trunk. The head, neck, both arms and legs, were reduced to bare bone. The terminal and middle phalanges were missing, with the exception of both toe thumbs. According to eyewitnesses, the corpse was found in calm water, about 50–70 cm deep.

The three corpses described here showed characteristic marks left by piranha bites, on the soft tissue that remained. Some of the marks were larger and wider than others, suggesting that at least two piranha species, of different size, were scavenging on the corpses. However, many bites were unrecognizable, especially those on the first corpse described.

Discussion

The piranhas, neotropical freshwater fishes of the order Characiformes, are widespread in all major

South American river basins (Myers 1972, Goulding 1980). Their feeding habits vary with the species and range from fruit and leaf-eaters to scale, fin, and flesh-eating predators (Goulding 1980, Sazima 1986). Many species are omnivorous, and those with predominantly carnivorous habits rely mainly on fishes as prey (Braga 1975, Goulding 1980). Species of the genus *Pygocentrus* (cf. Machado 1984) bear the man-eating reputation, especially *P. nattereri* (Myers 1972, Braga 1975), notwithstanding the notable absence of reliable accounts and, to the best of our knowledge, of any authenticated record of a person being severely maimed, killed, and devoured by piranhas.

The scavenging habits of both *Pygocentrus nattereri* and *Serrasalmus spilopleura*, the two commonest piranha species in the Pantanal region, have already been observed by us. Both species may feed on dead fishes, birds, and mammals, sometimes already decayed, although their staple diet consists of live fishes, eaten whole or by clipping off pieces of fins, muscle, or scales (Sazima 1986, I. Sazima & F.A. Machado unpublished). In the instance of the human corpses reported here, the evidence suggests that *P. nattereri* was the main scavenger. This species collects in larger schools than *S. spilopleura*, attains a larger body size and has stronger jaws and teeth capable of cutting through the tough skin and firm flesh of large mammal corpses. Once this is done, the smaller *S. spilopleura* can share the softer and smaller parts of the corpse; other necrophagous fishes may do so as well. Moreover, some of the recognizable bite marks found on the corpses can be attributed with some confidence to the wide-jawed, blunt-headed *P. nattereri*.

In the cases described here, had the fleshless and mutilated victims been found without knowing that they died before their bodies were eaten away, three more instances might have been added to the numerous grisly stories about piranhas killing and devouring people (e.g. Roosevelt 1914, Barros 1947, Myers 1972, Braga 1975). We do not deny the possibility that a school of *Pygocentrus nattereri* may kill and devour a human being under special circumstances, as already pointed out by some authors (Schultz 1964, Markl 1972, Goulding 1980):

However, we suggest here that at least some of the deaths attributed to piranhas most probably are instances of scavenging on drowned or otherwise already dead persons, by these schooling and opportunistically feeding carnivorous fishes.

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