

**ON THE DESTRUCTION OF FISH IN THE VICINITY OF THE TORTUGAS
DURING THE MONTHS OF SEPTEMBER AND OCTOBER, 1878.**

**By Lieut. J. P. JEFFERSON, Dr. JOSEPH Y. PORTER, and
THOMAS MOORE.**

The following information, relative to the dying of fish in the Gulf of Mexico during the month of September last, will be found of much interest, as bearing upon the sudden destruction in large numbers of marine animals, and their accumulation in geological strata.—EDITOR.

FORT JEFFERSON, DRY TORTUGAS, FLA.,

October 16, 1878.

I have the honor to enclose herewith the skin of a fish* which was found on the beach here. I send it because many old fishermen say that they never before saw one like it. Some five or six were picked up from a multitude of other fish; and to report this great mortality among them is my principal reason for addressing you. Some three or four weeks ago, the fishing-smacks over in Florida Bay lost about all their fish in their wells, and attributed it to fresh water, which they supposed had from some cause or other come down in great volume from the mainland. On the 9th instant, the sailing-vessel which connects us with Key West met water of a dark color about midway between here and there, but saw no dead fish. On her return, on the night of the 11th, she struck it off Rebecca Shoals, about 25 miles east of here, and found it extending some 10 miles out in the Gulf. That same night it came down upon us here, and the next morning the beach and surface of the water, as far as the eye could reach, were covered with dead fish. The appearance of the water had entirely changed; instead of the usual clear blue or green, it was very dark, like cypress water, and when viewed at depths over 10 feet, was almost black, precisely like the Saint John's River. We could not perceive any change in the saltness of the water but not having any other means of determining this, had to depend upon taste. There was no appreciable change in temperature. From the fact that almost all the fish that first came ashore were small and of such varieties as frequent shoal water, I infer that the dark water must have been of less density than the sea; still, great numbers of "grouper" have been seen, and these are generally found in 3 or 4 fathoms, I believe. The destruction must have been very great, for here, on a key containing but a few acres, and with a very limited extent of beach, we have buried at least twenty cart-loads; they have come ashore in such numbers that it has been a serious matter how to dispose of them.

*This on examination by Professor Gill was pronounced to be *Aulostoma coloratum*.

It is said that in 1856 or '57 there was a similar occurrence of limited extent over in the bay, and frequently the smacks fishing near shore along the coast meet fresh water which kills their fish; but all the fishermen here unite in saying that nothing of this kind has ever, to their knowledge, happened out on the reef. As to the extent of this I have no means of knowing; will endeavor to have forwarded with this, however, copies of the Key West papers, which will probably contain a more complete account than I have been able to give. One other fact in connection with this: among the dead fish were mullet, which, I believe, run up fresh- or brackish-water streams. Almost all the conchs around here were killed also. Whether or not sponges, coral, &c., have been affected, we have not been able to determine, the weather having been too rough to visit the beds.

I am, sir, very respectfully, your obedient servant,

J. P. JEFFERSON,
Lieutenant Fifth United States Artillery.

To Professor BAIRD.

FORT JEFFERSON, DRY TORTUGAS, FLORIDA,
November 4, 1878.

PROFESSOR: I have taken the liberty to forward you, by express from Key West, a box containing two "ribbon fish" preserved in alcohol. One of them was brought over to me by Mr. Moore, lighthouse-keeper at Loggerhead Light. The remaining specimen of "ribbon fish" in the jar (which is perfect) was picked up on a neighboring key this a. m. I am informed that these fish are a rare species, and very seldom seen.

The destruction of fish in Florida Bay and in this vicinity has been great this season. I obtained some sea-water, but not having the appliance for analyzing it, I have also taken the liberty to enclose it in the same box with the jar of fish.

Should you discover anything abnormal in the water which will account for the recent destruction of the fish in this vicinity, I will be under many obligations if you will inform me.

JOSEPH Y. PORTER,
Assistant Surgeon, U. S. Army, Post Surgeon.

P. S.—Since writing the above, Mr. Moore brought me some curious specimens of fish;* and a curious eel-like fish with but *one* eye, evidently an abnormality, has been found, which I have also enclosed in the box.

* The following is a list of species of fishes forwarded by Dr. Porter.—EDITOR.

Aulostoma coloratum, Müll. & Trosch.
Dactylopterus volitans, (Linn.) Lac.
Ceratacanthus aurantiacus, (Mitch.) Gill.

Monacanthus pardalis, Rüpp.
Blepharichthys crinitus, (Akerly) Gill.
Belone sp. (head).

The dark cypress looking water previously alluded to made its appearance here a day or so ago, but did not fortunately remain more than 24 hours, but during that period there was again destruction of fish.

Oct. 11th, at 7 a. m., saw the water a very dark color and dead fish drifting southwest; 9 a. m., dead fish on the beach and drifting by as far as we could see east and west of the Key.

Oct. 12th, 4 p. m., fish of all kinds on the beach, weighing from a few grains up to Jewfish, weighing about 150 lbs.

Oct. 13, 14, 15, and 16.—Dead fish drifting on this Key and at Fort Jefferson, distance from this Key $3\frac{3}{4}$ miles.

Names of some of the dead fish :—

Jewfish,	Common Garfish,
Yellow Tails,	Sucking Fish,
Mutton Fish,	Lump Suckers,
Grouper,	Muræna,
Skipjack,	Armed Euplossus,
Runners,	Pennant's Globe Fish,
Grunts,	Horned Ostracion,
Porgie,	Great Pipe Fish,
Pogie,	Porcupine Fish,
Three-tailed Porgee,	Ribbon Fish,

and fish we call Parrot, and numberless fish I have no name for. There is a fish called Snapper that we could not find dead, and have not seen since alive up to the 27th, but the water remains quite clear.

Oct. 30 and 31.—The water colored a light brown. I do not see any fish dead or alive.

THOMAS MOORE,
Keeper of Loggerhead Light, Florida.

Canthorinus occidentalis, (Günther).
Tetrodon lavigatus, (Linn.) Gill.
Chilichthys testudineus, (L.) Müll.
Ostracium quadricorne, Linn.
Acanthurus nigricans, Linn.

Heliastes insolatus?, Cuv. & Val., = *Chromis*
(*fide* Gill).
Pomacentrus leucostictus, Müll. & Trosch.
Apogon sp., probably *imberbis*.
Parques acuminatus, (Bl. Sch.) Gill.