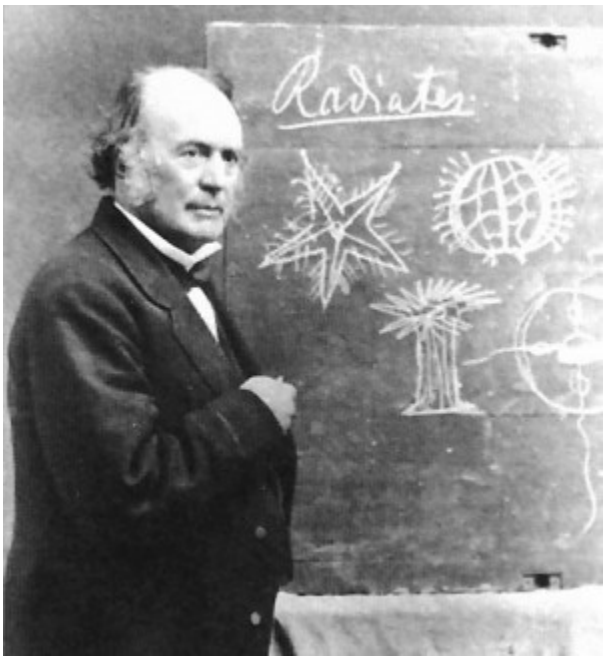
Agassiz was the founder of the Harvard Museum of Comparative Zoology and a Harvard professor. The following account was written by one of his students, Samuel H. Scudder, under the title “Agassiz and the Fish, by a Student” (*American Poems*, 3rd ed. [Boston: Houghton, Osgood & Co., 1879], pp. 450-54).

Agassiz and the Fish

by a Student

It was more than fifteen years ago that I entered the laboratory of Professor Agassiz, and told him I had enrolled my name in the scientific school as a student of natural history. He asked me a few questions about my object in coming, my antecedents generally, the mode in which I afterwards proposed to use the knowledge I might acquire, and finally, whether I wished to study any special branch. To the latter I replied that while I wished to be well grounded in all departments of zoology, I purposed to devote myself specially to insects.



Louis Agassiz (1807-1873)

“When do you wish to begin?” he asked.

“Now,” I replied.

This seemed to please him, and with an energetic “Very well,” he reached from a shelf a huge jar of specimens in yellow alcohol.

“Take this fish,” he said, “and look at it; we call it a Haemulon; by and by I will ask what you have seen.”

With that he left me. . . . I was conscious of a passing feeling of disappointment, for gazing at a fish did not commend itself to an ardent entomologist. . . . .

In ten minutes I had seen all that could be seen in that fish, and started in search of the professor, who had, however, left the museum; and when I returned, after lingering over some of the odd animals stored in the upper apartment, my specimen was dry all over. I dashed the fluid over the fish as if to resuscitate it from a fainting-fit, and looked with anxiety for a return of a normal, sloppy appearance. This little excitement over, nothing

was to be done but return to a steadfast gaze at my mute companion. Half an hour passed, an hour, another hour; the fish began to look loathsome. I turned it over and around; looked it in the face—ghastly; from behind, beneath, above, sideways, at a three-quarters view—just as ghastly. I was in despair; at an early hour, I concluded that lunch was necessary; so with infinite relief, the fish was carefully replaced in the jar, and for an hour I was free.

On my return, I learned that Professor Agassiz had been at the museum, but had gone and would not return for several hours. My fellow students were too busy to be disturbed by continued conversation. Slowly I drew forth that hideous fish, and with a feeling of desperation again looked at it. I might not use a magnifying glass; instruments of all kinds were interdicted. My two hands, my two eyes, and the fish; it seemed a most limited field. I pushed my fingers down its throat to see how sharp its teeth were. I began to count the scales in the different rows until I was convinced that that was nonsense. At last a happy thought struck me—I would draw the fish; and now with surprise I began to discover new features in the creature. Just then the professor returned.

The Tomtate, Haemulon aurolineatum. Illustration by Diana Rome Peebles 1998. Courtesy of Florida Fish and Wildlife Conservation Commission, Division of Marine Fisheries.

“That is right,” said he, “a pencil is one of the best eyes. I am glad to notice, too, that you keep your specimen wet and your bottle corked.”

With these encouraging words he added—

“Well, what is it like?”

He listened attentively to my brief rehearsal of the structure of parts whose names were still unknown to me; the fringed gill-arches and movable operculum; the pores of the head, fleshly lips, and lidless eyes; the lateral line, the spinous fin, and forked tail; the compressed and arched body. When I had finished, he waited as if expecting more, and then, with an air of disappointment:

“You have not looked very carefully; why,” he continued, more earnestly, “you haven’t seen one of the most conspicuous features of the animal, which is as plainly before your eyes as the fish itself. Look again; look again!” And he left me to my misery.

I was piqued; I was mortified. Still more of that wretched fish? But now I set myself to the task with a will, and discovered one new thing after another, until I saw how just the professor's criticism had been. The afternoon passed quickly, and when, towards its close, the professor inquired,

"Do you see it yet?"

"No," I replied. "I am certain I do not, but I see how little I saw before."

"That is next best," said he earnestly, "but I won't hear you now; put away your fish and go home; perhaps you will be ready with a better answer in the morning. I will examine you before you look at the fish."

This was disconcerting; not only must I think of my fish all night, studying, without the object before me, what this unknown but most visible feature might be, but also, without reviewing my new discoveries, I must give an exact account of them the next day. I had a bad memory; so I walked home by Charles River in a distracted state, with my two perplexities.

The cordial greeting from the professor the next morning was reassuring; here was a man who seemed to be quite as anxious as I that I should see for myself what he saw.

"Do you perhaps mean," I asked, "that the fish has symmetrical sides with paired organs?"

His thoroughly pleased, "Of course, of course!" repaid the wakeful hours of the previous night. After he had discoursed most happily and enthusiastically—as he always did—upon the importance of this point, I ventured to ask what I should do next.

"Oh, look at your fish!" he said, and left me again to my own devices. In a little more than an hour he returned and heard my new catalogue.

"That is good, that is good!" he repeated, "but that is not all; go on." And so for three long days, he placed that fish before my eyes, forbidding me to look at anything else, or to use any artificial aid. "Look, look, look," was his repeated injunction.

This was the best entomological lesson I ever had—a lesson whose influence was extended to the details of every subsequent study; a legacy the professor has left to me,

as he left it to many others, of inestimable value, which we could not buy, with which we cannot part. . . .

The fourth day a second fish of the same group was placed beside the first, and I was bidden to point out the resemblances and differences between the two; another and another followed, until the entire family lay before me, and a whole legion of jars covered the table and surrounding shelves; the odor had become a pleasant perfume; and even now, the sight of an old six-inch worm-eaten cork brings fragrant memories!

The whole group of Haemulons was thus brought into review; and whether engaged upon the dissection of the internal organs, preparation and examination of the bony framework, or the description of the various parts, Agassiz's training in the method of observing facts in their orderly arrangement, was ever accompanied by the urgent exhortation not to be content with them.

"Facts are stupid things," he would say, "until brought into connection with some general law."

At the end of eight months, it was almost with reluctance that I left these friends and turned to insects; but what I gained by this outside experience has been of greater value than years of later investigation in my favorite groups.