

OBITUARIES

Jeffrey Brent Graham

(1941–2011)

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JEFFREY BRENT GRAHAM, an eminent physiologist and researcher at Scripps Institution of Oceanography, University of California San Diego (UCSD) for over 30 years passed away on 8 December 2011, at his San Diego home, after waging a courageous battle with cancer. This was a deep personal loss for Jeff's large and close family, his many friends, and his students at Scripps and San Diego State University (SDSU) whom he trained to be skilled, highly productive scientists, teachers, and strong citizens. The scientific community at large lost an important thinker with an inimitable knack for harnessing his many creative gifts and insights to address challenging questions of broad impact that resulted in more than 165 published papers. The following is a tribute to Jeff's academic career, which, even though it spanned 50 years, was cut far too short. Throughout his illness and even into his last few weeks when weakened by disease, Jeff was actively collecting data on numerous projects, writing about new data sets, collaborating with colleagues, and directing students. The history that follows draws heavily upon Jeff's own recount of his career to his former students, colleagues, and friends. We altered Jeff's words from first to third person, and included comments from many of his colleagues.

Describing his own time in science Jeff wrote, "My career has been in comparative respiratory biology and its related variables such as metabolism and body temperature. Added to this has been an emphasis on species or groups characterized as being 'transitional' between normal life history and physiology of the group at large. Examples include the sea snake *Pelamis*, which has 'returned to the sea' and, unlike the majority of sea snake species never leaves the water. Another are the tunas, considered 'super fish' because of their many adaptations for elevated aerobic capacity and their extensive migrations that distinguish them from most other epipelagic fishes. Finally, there are the air-breathing fishes, a diverse assemblage of species occurring among 50 families of osteichthyans, some of which have partially emerged on land."

Jeff Graham unknowingly began his formal training to become a biologist in 1962 when he transferred from San Diego City College to San Diego State College at the time (now SDSU) intent on pursuing a major in Physical Education with a minor in History, and then becoming a high school teacher. It was at SDSU that Jeff met Richard Etheridge, who taught the human anatomy course for PE majors that Jeff had been dreading to take. This course turned out to be one of Jeff's favorite classes, and Richard became a mentor by taking him into the field to find fossils

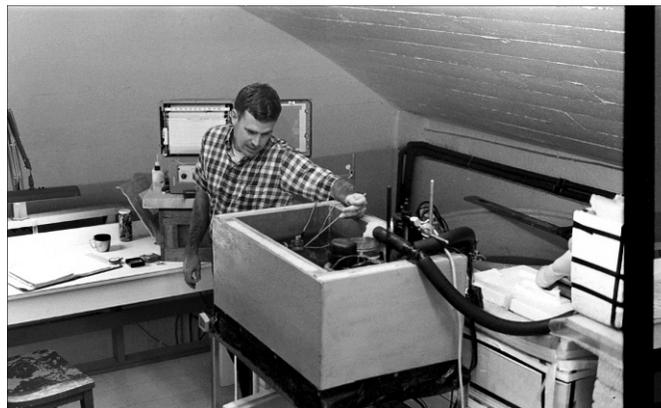


Fig. 1. Jeff conducting laboratory studies on *Pelamis platurus* at the Smithsonian Tropical Research Institute in Panama. Smithsonian Tropical Research Institute photographic archives.

and collect lizards and snakes. It was through Richard that Jeff first learned about *Pelamis platurus*, the only sea snake in the eastern Pacific, when Jeff's future father-in-law, a tuna fisherman, brought home a large frozen specimen from one of his trips. Jeff was so excited that he telephoned Richard at home, and while he was running his fingers over the snake's teeth, Richard educated his overly enthusiastic student that *Pelamis* is extremely venomous! Having survived this first encounter, Jeff became fascinated with the thermal biology, diving physiology, and respiration of this sea snake, which he later researched extensively (Fig. 1).

Jeff graduated from SDSU in 1964 with the ambition of training with Richard to become a herpetologist. By then, however, Jeff had married (Rosemarie) and started a family (Jeffrey Jr.) and his most immediate need was to find employment. Serendipitously, he obtained a one-year position as an assistant aquarist at the Aquarium-Museum at Scripps Institution of Oceanography, which was directed by Richard "Dick" Rosenblatt. This job led to Jeff's gradual shift in research interest to fishes, and Dick became an important transformational influence on his academic development. Later, Jeff was always quick to credit Dick for "teaching me to think, and helping me to design my Master's project on temperature and intertidal fishes." Jeff conducted his Master's research in Roger Carpenter's laboratory, a mammalian comparative physiologist at SDSU. Roger regularly brought his undergraduate zoology classes on field trips to the Aquarium-Museum where Jeff was

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