Obituary

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Memories of Dr. Kazunari Yano (1956–2006)

The science of ichthyology lost a leading researcher in 2006 with the death of Kazunari Yano, who succumbed after a valiant battle with a brain tumor. Kazu was struck down in the prime of life and in the most productive period of his professional career. I first met Kazu 20 years ago, in 1986, when he was completing his Ph.D. degree with Dr. Tamotu Tamura at Tokai University. We worked together to collect deep-sea sharks on a research cruise to the Canary Islands and Mid-Atlantic Ridge in order to determine the threat from shark bite to deep-sea fiber optic telephone cables. These were experimental at the time, and a prototype system installed by A.T.T. between the Canary Islands had experienced a failure due to shark bite at a depth of 1800 m. Kazu impressed me with his cheerful, energetic approach to life and his serious methodical approach to science. I quickly realized that his knowledge of deep-sea squaloid sharks far exceeded mine. Subsequently we co-authored papers and continued to communicate by mail and e-mail, particularly concerning issues of international shark conservation. In 1998, I had the pleasure of visiting with Kazu and his wife Kaori along with Dr. Gregor Calliet (Moss Landing Marine Laboratory) in Ishigaki, Japan, where Kazu served as the head of the Subtropical Fisheries Biology Section of the National Fisheries Research Institute Tropical Station. Greg and I were both touched by the kindness and warmth of the Yanos during our visit. Kazu in particular expended great effort to see that we visited sites with Japanese historical and cultural significance. He often sought to teach his American colleagues about Japanese culture, particularly when he attended the annual meetings of the American Elasmobranch Society (AES) in the United States. During one memorable meeting he led several past presidents of AES in a traditional Japanese dance, in which the presidents shared his enthusiasm if not his energy and grace. Kazu was a natural athlete and accomplished surfing champion, a fact of which few of his international colleagues may be aware.

Kazu received his formal education from Tokai University, earning his bachelor's degree from the Faculty of Marine Science and Technology in 1980, and his master's and doctorate from the Graduate School of Marine Science and Technology in 1982 and 1986, respectively. His doctoral thesis was on the "Morphology, Systematics, Taxonomy, and Ecology of Squaloid Sharks in Japan." His subsequent research focused on many aspects of elasmobranch biology. Among his most significant studies was the discovery that external barnacle parasites on some deep-sea sharks actually divert sufficient energy from the sharks to disrupt reproduction. He was also the first to discover that carchariniform sharks in the family Pseudotriakidae have a unique form of oophagous embryonic nutrition wherein extra unfertilized eggs are deposited within the same capsule as the developing embryo for later ingestion to support embryonic growth and development. This system is very different from the well-known oophagy in the distantly related lamniforms and the only recorded occurrence of any form of oophagy outside of the lamniforms. Other particularly compelling studies Dr. Yano published included the first sonic tracking of a deep-sea shark (with Sho Tanaka) and film observations of mating behavior in the giant manta ray. Most recently Kazu was the lead author for a huge, lavishly illustrated volume, *Sharks and Rays of Malaysia and Brunei Darussalam* (Yano et al., 2005), a major contribution to the world's elasmobranch literature.

Dr. Yano was active in the international conservation of elasmobranchs and served on the IUCN Shark Specialist Group and as an international member of the AES Conservation Committee. His experience with elasmobranchs around the world made him particularly knowledgeable about threats to sharks and rays in many places. His research took him from Japan to Malaysia and even to waters off Greenland, West Africa, and New Zealand; and from habitats in fresh and brackish water to the maximum depths at which elasmobranchs exist in the deep sea (–3000 m). Few if any elasmobranch workers have the breadth of experience that Kazu had.

Kazu Yano is missed by his friends and colleagues around the world and particularly by those of us who knew the delight of his company and realized the depth of his intellect and the breadth of his knowledge. We miss him because of what we know he would have accomplished given the opportunity to continue his career. But mostly we miss the man, and his cheerful energy and kindness.

Litesrature Cited

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