

Daniel Morris Cohen (1930–2016)

Bruce B. Collette¹

DANIEL MORRIS COHEN died in San Rafael, California on September 26, 2016 at the age of 86 after a long illness. Much of Dan's early life was well described in the Historical Perspective on Dan written by his long-time colleagues Jean Dunn and Ted Pietsch (Dunn and Pietsch, 2005) so everyone interested in Dan's life should read that paper as well as this obituary. There is also a brief obituary in *Stanford* (2018). Dan's wife Anne held a Celebration of Dan's Life in January at Villa Marin. About 60 people attended, mostly from the Cohen family, including daughters Cynthia Sarah Cohen and Carolyn Cohen Leech, their husbands, children, grandchildren, nephews, cousins, old family friends, Villa Marin residents, two of Dan's former care-givers, and some scientists from the California Academy of Sciences including Andy Jahn, Dave Catania, and Tomio Iwamoto.

At the Celebration, Tomio Iwamoto provided a fine example of the effects of Dan's influence as he reminisced about his first meeting Dan on board the Bureau of Commercial Fisheries research vessel *Oregon* in October 1962. Dan was particularly interested in the Luminous Hake *Steindachneria argentea*. He took samples of this fish into a darkroom where he injected them with a hormone that caused them to light up. Dan documented these experiments in a paper in *Copeia* (Cohen, 1964). In 1965, Tomio quit the BCF to enroll in the University of Miami where he pursued his Ph.D. on the rattails (Macrouridae), a family within the Gadiformes, a group with which Dan was a major player. Dan promoted Tomio's research by introducing him to N. B. "Freddy" Marshall of the British Museum resulting in Tomio writing some of the accounts on the Macrouridae with him in the sixth volume of the monographic series, *Fishes of the Western North Atlantic*, of which Dan was the Editor at that time. Later on, Tomio collaborated with Dan on the Gadiformes volume for the FAO Synopses series (Cohen et al., 1991) as well as a series of FAO Species Identification Guides (Iwamoto and Cohen, 2003, 2016). Dan couldn't finish one macrourid project so he passed some sketches and notes to Tomio who has passed them on to Adela Roa-Varon, a recent graduate of the Ph.D. program at the Virginia Institute of Marine Sciences studying gadiform fishes.

It has been both more difficult and in some ways easier to write this obituary. Much of the material that normally goes into an obituary has already been thoroughly covered by the fine historical article on Dan written by his long-time colleagues Jean Dunn and Ted Pietsch in 2005, so I shall write much of this remembrance of Dan from a more personal view and then add comments from Anne and three of Dan's associates.

When I was finishing my Ph.D. at Cornell in 1960, I started looking for a position that would allow me to continue my ichthyological research. I was in contact with the Los Angeles County Museum, the just starting University of South Florida, and a university in Puerto Rico, but my most promising contact was with Leonard Schultz, then Curator of Fishes at the U.S. National Museum in Washington, D.C., who was looking for a contract ichthyologist to revise sharks of the genus *Carcharhinus*. I had gained some experience with marine fishes while working for Bob Gibbs at the Woods Hole Oceanographic Institute in the summer of 1957, so I was aware of the potential problems in such a study and was negotiating terms for such a position. But then Giles Mead left his position as Director of the Ichthyological Laboratory of the Bureau of Commercial Fisheries housed in the U.S. National Museum for a position at Harvard. This left an opening at the Ichthyological Laboratory so Ernie Lachner, another curator at USNM, alerted me to this position. As noted by Dunn and Pietsch, Dan remembered me from an ASIH meeting where I "calmly and firmly defended my conclusions" from criticism from the highly respected Carl Hubbs. This was back in an era when there were few if any postdocs and no interviews were held for such positions—just filling out a government form. I applied for the vacant position, and Dan hired me. Thus began my professional career of 57 years with what is now NOAA's National Marine Fisheries Service, for which I am deeply indebted to Dan.

Dan encouraged me over the years. Upon my arrival at the U.S. National Museum in the fall of 1960, he supported my taking time to revise my dissertation that was on a decidedly non-commercial group of small freshwater fishes, darters, even though the position was in the Bureau of Commercial Fisheries. But tuna opportunities quickly arose when Jack Marr, then at Pacific Oceanic Fisheries, requested that I straighten out the taxonomy of the large commercial tunas and do it well enough "so that the damned names stop changing." Dan facilitated my participation in collecting expeditions and travel to museums so I could carry out a long series of revisions of various groups of scombrids. After figuring out how to obtain permission from the BCF bureaucrats to fund a yearlong sabbatical at the British Museum in 1966–67, Dan encouraged me to try something similar. So I spent 1970 at the Australian Museum working with Frank Talbot and John Paxton on scombrids, halfbeaks, and needlefishes. Our peaceful years ended in 1981 when NMFS tried to close down our laboratory. As Laboratory Director, Dan felt the pressure more than the rest of the staff so he accepted a transfer from Bill Aron to move to the NMFS Northwest and Alaska Fisheries Science Center in Seattle and

¹ National Marine Fisheries Service Systematics Laboratory, National Museum of Natural History, Washington, D.C. 20560; Email: collett@si.edu.

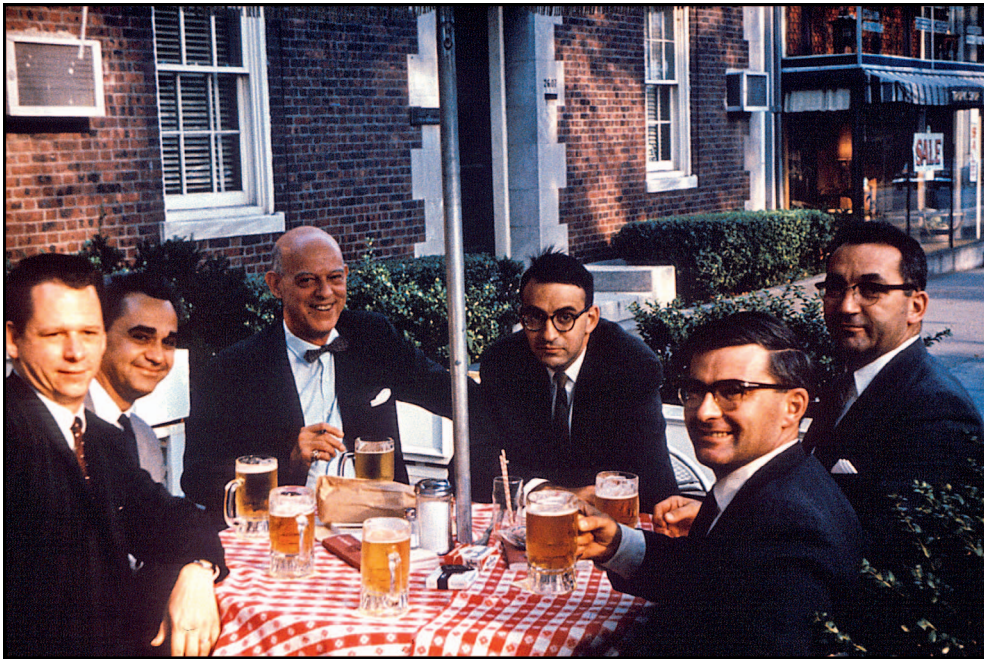


Fig. 1. Dan Cohen and other ichthyologists at Stanford University in the 1960s. Pictured are (left to right): Bruce Collette, Ralph Taylor, George Myers, Dan, Ernest Lachner, and Jack Garrick (photo courtesy of Lynne Parenti).

I became Laboratory Director. After his move, I lost much of my contact with Dan and I deeply regret not staying in better contact, especially since I was aware of his worsening health. Now it is too late for me to tell him how important he was in my life, so all I can do is to thank him and try to document parts of his life as an ichthyologist and an outstanding person.

Unfortunately, Dan's move to the NMFS Seattle Center did not work out well. As he told me, he had a microscope for his research while everyone else in the Center lab had only computers. As documented by Dunn and Pietsch (2005), Dan "was very much a museum person." Fortunately, Dan was able to escape NMFS when a position opened up as Chief Curator of Life Sciences at the Los Angeles County Museum. Later, he was promoted to Deputy Director for Research and Collections, a position he held until his retirement in 1995.

In spite of hard times financially at LACM, Dan was able to recruit scientists for ten curatorial positions and continue his research on gadoid and ophidioid fishes.

To add to my account, I asked three of Dan's colleagues to contribute some of their remembrances about Dan: Jack Musick of the Virginia Institute of Marine Science, Jørgen Nielsen of the Natural History Museum of Denmark, and John Paxton of the Australian Museum, Sydney.

Dan served on Jack Musick's Ph.D. Committee at Harvard and offered important comments on Jack's dissertation on the gadiform hakes. After Jack graduated, Dan was instrumental in helping him start his Ichthyology Graduate program at the Virginia Institute of Marine Science (VIMS) in the late 1960s. Dan was always available to offer sage advice to Jack and his many students and encouraged their visits to the Fish Division of the National Museum, where

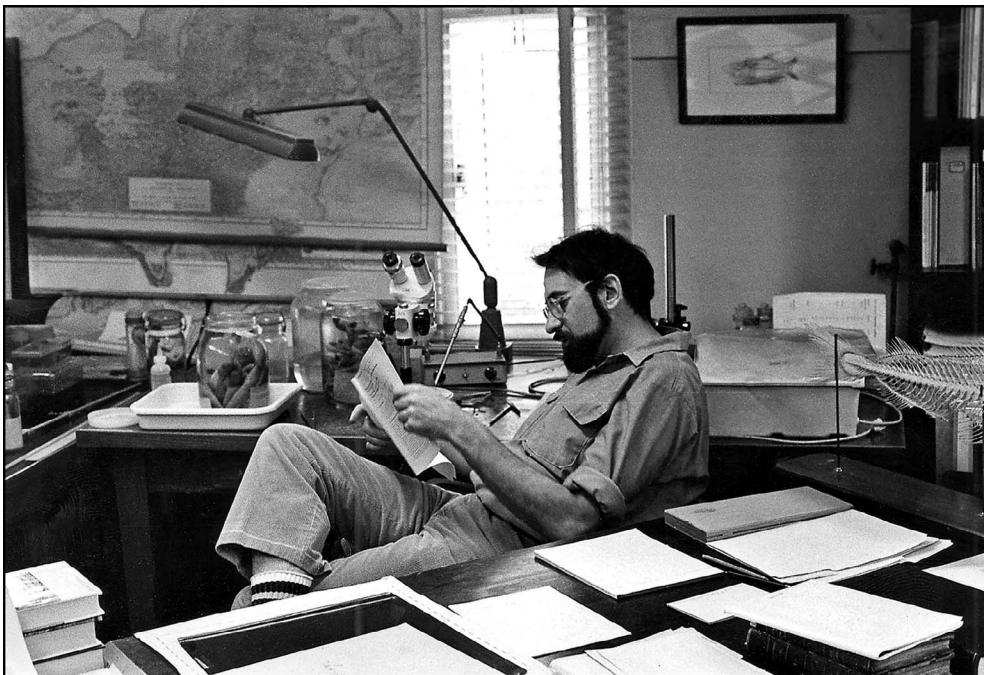


Fig. 2. Dan at his desk in the National Marine Fisheries Service Systematics Laboratory in the U.S. National Museum of Natural History, shortly before 1982 (photo from USNM Division of Fishes files).



Fig. 3. Dan standing next to chief scientist Nik Parin aboard the Soviet research vessel *Vityaz* in the western Indian Ocean in 1988, with (left to right) Matthias Stehmann, Bruce Collette, Jørgen Nielsen, Erik Bertelsen, Eric Anderson, Nigel Merrett, and John Paxton.

they came under the influence of some of the most prominent ichthyologists in the country. These contacts led to many scientific collaborations between VIMS graduate students and biologists at USNM. Dan's ichthyological and administrative contributions are well known, but his contributions to the development of young scientists were probably just as important. It was only because of the support from Dan and his colleagues at the Smithsonian that Jack agreed to organize and chair the 1975 ASIH meetings at William and Mary. The academic association between VIMS and marine biologists at the Smithsonian has continued over the years to the present day.

Jack's interest in the ecology of demersal deep-sea fishes and Dan's interest in their systematics led to further collaborations in the field. Dan and Jørgen Nielsen participated in Jack's NSF-sponsored cruises to compare demersal fish communities in the Bahamas to those off Virginia. In addition, Jack joined Dan in one notable *Alvin* dive to >2000 m near Hudson Canyon. Jack, Dan, and the pilot squeezed into the *Alvin*'s small sphere in which the two investigators crouched or lay down to peer out the small portholes. In the middle of the six-hour dive, there was a pop and sizzle and the small cabin filled with acrid smoke, a disconcerting time for the scientists. The pilot, however, was unconcerned and noted that they had blown some fuses, and the cabin cleared in a few minutes.

Jørgen Nielsen met Dan many times in the period 1964–2014. The main reason was that they were both studying the same order of deep-sea fishes, the Ophidiiformes. Dan was mostly interested in the viviparous brotulids and Jørgen in the oviparous cuskeels. They coauthored 15 papers. Jørgen and Dan were on five cruises together and in three of them, they shared a cabin. One of the most memorable was the shakedown cruise on the *Walther Herwig* from the Denmark Strait to Lisbon. Somebody at the shipyard had apparently forgotten a heavy tool in the space between our cabin and the deck above them. It entertained them for 3–4 weeks sliding forth and back above their bunks. When they met Hurricane Ellen, it became just a hell of a noise! The way Jørgen really came to know Dan was due to Dan and Anne's immense hospitality. Whenever Jørgen came to study ophidiiform fishes with Dan, Jørgen stayed in their home and became part of the family. The first time was in 1967 in London, several times on Florida Street in Chevy Chase, Maryland, then in Los Angeles, and finally in Bodega Bay. All together, Jørgen lived with the Cohen family for about four months. When they were invited to friends, he was included or they met at the Red Fox for traditional music. They also introduced Jørgen to Scott Joplin and "Jackie" (=Jack Daniel) when Dan was in that mood, which he often was. The last time Jørgen met Dan was in 2014. They talked about their latest papers. Dan did not say much, but Jørgen was sure that



Fig. 4. Dan and Anne's 50th wedding anniversary party in 2005. The family members are: Row 1: Sophia Brumbaugh (niece), Dr. Debbie Leech Phipps and Nancy Leech Proszek CRNA (granddaughters). Row 2: Dr. Cynthia Sarah Cohen and Dr. Brian Leech (grandson). Row 3: Carolyn Cohen Leech and Dan. Last row: Peter Barschall (Sarah's husband) holding their daughter Mai Ly, Anne Cohen, and Bob Leech (Carolyn's husband). Photo from Anne Cohen.

Dan followed all that was said. On one occasion, Jørgen had forgotten the name of a genus but after a short while Dan smiled and whispered *Spottobrotula*, a genus described by Cohen and Nielsen in 1978. So Jørgen owes Dan and Anne very much for learning about American daily life and ophidiiform fishes.

Dan explored and collected fishes all over the world by scuba diving, on oceanographic voyages, and down to the deep-sea bottom as documented by Dunn and Pietsch (2005). Anne tells me that Dan's research sub dives, particularly in the *Alvin* in the Galapagos, were very important to him. He went down to the ocean bottom in *Alvin* to explore and collect from the deep-sea bottom in the Tongue of Ocean in the Bahamas and later in the famous Galapagos rift zone, where the earth's plates are spreading and there is an oasis of unusual hitherto unknown life growing supported by the warm water and sulfur bacteria, and where he helped use *Alvin* tools to collect and later describe the unusual fishes. On other small research submarines, he helped study what was happening after radioactive waste was dumped off Hudson Canyon and off San Francisco (Cohen, 1977; Cohen and Pawson, 1977). He spent many hours at home analyzing the films and his notes. He made research submersible dives in *Deepstar* and *Alvin* off New England and in *Alvin* near Hudson Canyon (Chief Scientist) and in the Bahamas (Chief Scientist), plus the *Alvin* dives in the Galapagos thermal vent area. He wrote 11 papers based on these dives. After his official retirement, the Monterey Bay Aquarium Research Institute (MBARI) asked Dan to help identify fishes seen and

photographed from their remotely operated vehicle (ROV) and invited him on a voyage.

John Paxton provided an account of his interactions with Dan from the early 1960s until 2006. In 1965 Dan contacted Jay Savage, John's major professor at the University of Southern California, about a position for three months to help identify part of a collection of deep-sea fishes Dan and others made on the US R/V *Anton Bruun*, as part of the International Indian Ocean Expedition. Also, to help get ready for and participate in a Miami-Bermuda cruise of two weeks and sort the material from that cruise. Dan also made funds available to John to travel to the Museum of Comparative Zoology and the American Museum of Natural History for some lanternfish research. That spring was very good for John. On the Bermuda cruise, the FR/V *Undaunted* wasn't, as the weather was bad, but the fish catch was better, and best of all was the scientific party that included Dan as cruise leader, Bruce Collette, Bob Gibbs, and John. The Bermuda Triangle curse struck after a few days, as they lost the midwater trawl and a significant amount of cable. Other highlights of his months in Washington included a BBQ dinner at Dan and Anne's in Chevy Chase, tips on clearing and staining fragile fishes from Stan Weitzman, and a day on lanternfishes with Basil Nafpaktitis which began two decades of co-operation.

When John applied for the vacant Curator of Fishes position at the Australian Museum, one of the letters of support came from Dan. John's correspondence with Dan greatly increased once he became established at the Austra-

lian Museum. It included dozens of letters in the decades until email became pervasive. Dan was always helpful, providing unpublished information on his research for various compilations, such as John's 1989 *Zoological Catalogue of Australia, Pisces* (with Hoese, Allen, and Hanley), for which Dan reviewed the family accounts for three families.

In 1988, Dan and John were cabin mates on a seven-week cruise in the western Indian Ocean on the Russian R/V *Vityaz* II, with Nikolai Parin as cruise leader and seven other ichthyologists including Jørgen Nielsen and Bruce Collette (Fig. 3; repeated from Dunn and Pietsch [2005] and Collette [2013]). The shallow-water specimens from northern and southwestern Madagascar and Walters Shoals plus the extensive deep-sea collections from the Mozambique Trench made for an exceptional cruise. Much could be written about other aspects, but recollection of the galley's reliance on cabbage as the primary 'fresh' vegetable for every meal stood out. When we left the *Vityaz* in Mauritius, there was a poster from their Russian colleagues, showing all of us in a life raft paddling away from the ship with a flag "No more kapusta!" In the summary letter from Dan after our return, he mentioned LACM had an exhibit from USSR and to set the tone, the cafeteria "had tropical delicacies as cabbage soup." Dan ended that letter with "I think we were ideal cabin mates. After all, you turned in at 3:30 every AM and I was up and gone by 4:30."

Dan wrote two chapters, Troutperches and allies and Codfishes and allies, which were published in two editions of the *Encyclopedia of Fishes* that Bill Eschmeyer and John edited (see list of publications, 1994). Dan and John coauthored two sets of family accounts, four in *FAO Species Identification Guide for Fishery Purposes, Western Central Pacific*, 1999 and three of the same families with Anne Cohen in *Checklist of the Fishes of the South China Sea*, Randall and Lim (eds.), Raffles Bulletin of Zoology, 2000.

Dunn and Pietsch selected 16 of Dan's publications to list in their account. I decided that it would be appropriate to list all 135 of his publications here to document his scientific output.

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