

HISTORICAL PERSPECTIVES

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DANIEL MORRIS COHEN

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DANIEL MORRIS COHEN, best known to ichthyologists for his taxonomic studies of deep-sea salmoniform, gadiform, and ophidiiform fishes over the past 45 years, was born on 6 July 1930 in Chicago, Illinois (Anon., 2003a). Dan's father, Leonard U. Cohen, graduated from the University of Illinois. He spent one year in law school at the University of Michigan but, acceding to his father's desire, followed the family business and became a furrier. Dan's mother, Myrtle Gertz, also worked in the fur business as well as being a housewife who cared for Dan and his sister Judith (1933–), an accomplished artist who now resides in Santa Rosa, California. The family relocated to California in 1953 where Leonard went into the chicken-egg business in the Carmel Valley. Dan's father later became a mortgage broker in Monterey.

Dan's early interests in biology were encouraged by grade school and high school teachers as well as by frequent trips to the Field Museum. He particularly enjoyed sport fishing and in his youth he accompanied his father on angling trips to lakes in northern Wisconsin, Michigan, and Minnesota, and on weekends in Illinois. His curiosity about biology led him to Stanford University in Palo Alto, California, where relatives had studied chemistry and English. Stanford University (SU) was also a long way from Illinois, a fact that helped lure Dan to the West in 1948. In contrast to his father, Dan was encouraged to follow a career path of his own choosing. As an undergraduate (Fig. 1) he considered a number of potential majors, including creative writing, pre-medical instruction, and geology, but he decided to specialize in biology, receiving his B. A. in biological sciences in 1952. In the spring of that year he spent three "fun" months on board the ORCA out of San Diego collecting fishes and herps (amphibians and reptiles) in the Gulf of California with fellow students, including James Erwin Böhlke (1930–1982) and Jay Mathers Savage (1928–), among others. In 1953, he took ichthyology from Rolf Ling Bolin (1901–1973) at the Hopkins Marine Station in Pacific Grove, Stanford University's

marine research laboratory. The course was intensive, meeting all day three times a week, and one that Dan himself would teach in 1962. He considered Bolin "a pretty good guy." In 1951–52, Dan took an advanced ichthyology course from George Sprague Myers (1905–1985).

Dan then decided to study fishes. He spent the summer of 1952 with Professor Donald Eugene Wohlschlag (1918–) out on the tundra south of Point Barrow, Alaska, conducting field work on the age and growth of ciscoes and whitefishes, genus *Coregonus*, as part of a program on the population biology of whitefishes funded by the Office of Naval Research. He took his M. A. degree (Cohen, 1954) and returned to Point Barrow the following year to assist Norman Joseph Wilimovsky (1925–1997) in his dissertation research on the ecology of the Arctic Ocean ice pack.

At this stage of his graduate education, Dan was in a quandary searching for an appropriate topic for his own doctoral dissertation. With an interest in trout, he thought of pursuing research on salmonids, possibly studying under Professor Paul Robert Needham (1919–1964) at the University of California, Berkeley. He was dissuaded from that venture by his fellow graduate students and his professors, so he next considered a study of the fishes of San Francisco Bay, but he learned from Myers that Earl Stannard Herald (1914–1973) was conducting that work. He then consulted with Bolin, who suggested tropical blennies, only to discover that Wilbert McLeod Chapman (1910–1970) was working on that group. At the time, Dan was a curatorial assistant in the Stanford fish collection and he was ultimately led to the deep-sea fishes from the Stanford-Crocker Expedition (Brittan, 1997) and Charles William Beebe's (1877–1962) Pacific fishes housed in the collection. As Dan put it, he then "got the call" to study deep-sea fishes and began his doctoral work under Professor Myers, receiving his Ph.D. degree in 1958. His dissertation on the systematics of the deep-sea argentinoids (Cohen, 1957) ultimately led to the publication of 17 pa-

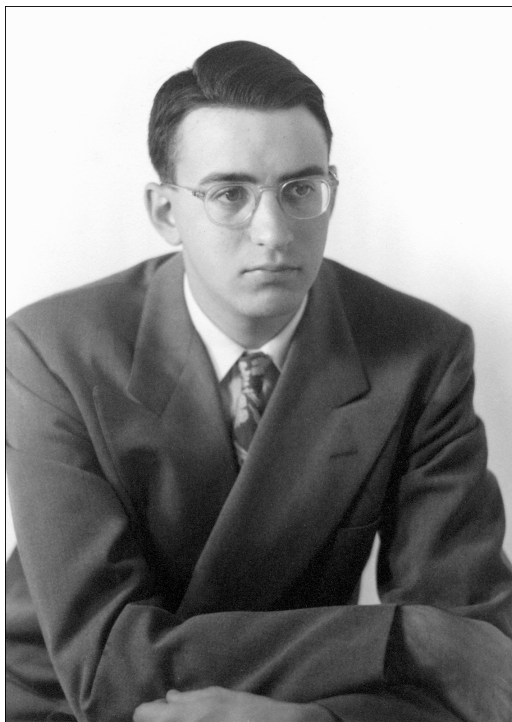


Fig. 1. Daniel Morris Cohen as an undergraduate at Stanford University, 1950.



Fig. 2. Dan and Anne in the Rose Garden of the White House, celebrating the 200th anniversary of the birth of James Smithson, 1965.

pers and to a long and productive career in which Dan continued to pursue deep-sea fishes. Dan considered Myers a bit difficult at times. He tended to leave his students very much alone, but he was very loyal to them. He credits Myers for his encyclopedic knowledge of fish literature as well as his portrayals of fish and herp diversity and evolution. Dan acknowledges his fellow graduate students in the Stanford Natural History Museum for much that he learned about fishes, citing in particular Jim Böhlke, who Dan said “had phenomenal vibes for fishes,” Norm Wilimovsky, who knew a “lot about cold-water fishes,” and Stanley Howard Weitzman (1927–), for his “knowledge of fish anatomy.” Dan credits Elbert Halvor Ahlstrom (1910–1979) and H. Geoffrey Moser (1938–) for passing along their insights into the world of early life history stages of fishes. Others from whom he learned much were Rolf Bolin, Norman Bertram (Freddy) Marshall (1915–1996), of the British Museum (Natural History), London, as well as Dan’s two colleagues in the study of ophidiiform fishes, Jørgen G. Nielsen (1934–), Zoological Museum, University of Co-

penhagen, and Charles Richard Robins (1928–), University of Miami, Florida, now at the University of Kansas.

Dan met Anne Carolyn Constant (1935–) at Stanford University when she was an undergraduate biology major (Fig. 2). They became better acquainted when both were participants in a field trip in 1954 to the San Pedro Martir Mountains of Baja California, Mexico, an expedition Dan termed “a lot of fun.” They were married in 1955. Anne received her B. A. from Stanford in 1956, her M. S. (1972) at the University of Maryland, and her Ph.D. (1987) degree from George Washington University. She is an expert on the taxonomy, systematics, and biology of crustaceans, particularly ostracodes (Anon., 2003b), on which she continues to publish. They have two daughters, Carolyn Annette Leech (1956–) of Naperville, Illinois, who is an engineering manager for Lucent Technologies and the mother of three children, and Cynthia Sarah Cohen (1959–), an assistant professor of biology at San Francisco State University and the mother of one.

Dan took a position in 1957 as assistant pro-

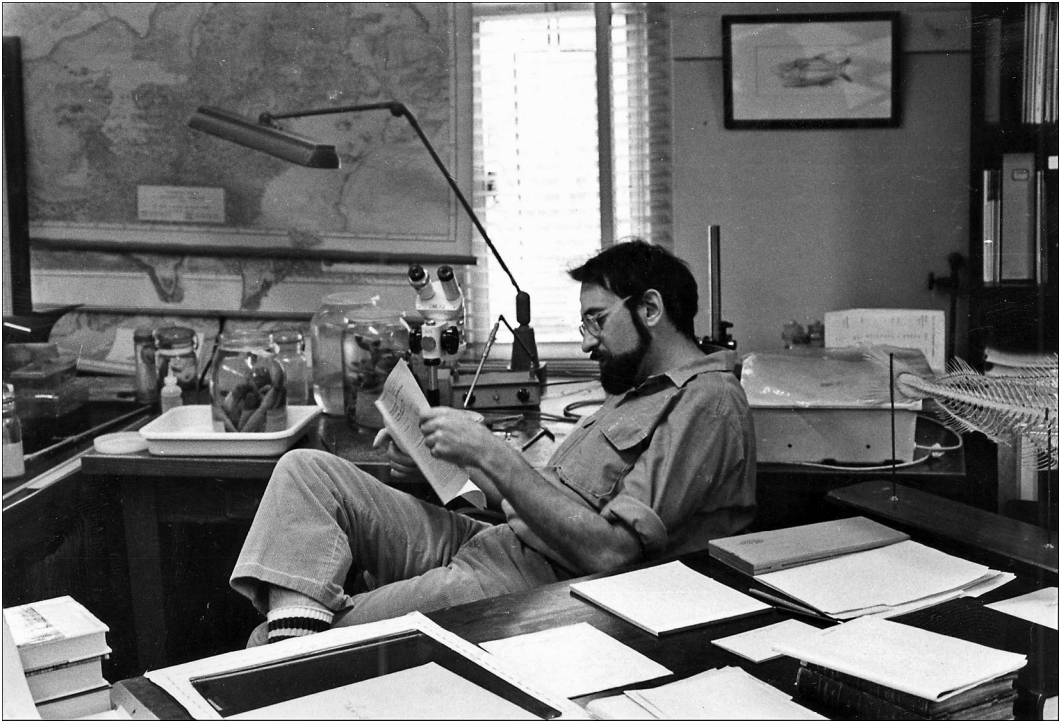


Fig. 3. Dan at his desk at the Systematics Laboratory, National Marine Fisheries Service, Smithsonian Institution, shortly before 1982. Courtesy of Bruce B. Collette.

fessor of biology and curator of fishes at the University of Florida, Gainesville, a position John Carmon Briggs (1920–) had recently vacated to teach anatomy in the medical school of that university. Dan found the southern racial attitude of the era a distinct culture shock and he did not consider his year at the University a pleasant one. In 1959, Dan accepted a position as a systematic zoologist with the U.S. Bureau of Commercial Fisheries Ichthyological Laboratory housed in the U.S. National Museum (USNM), Washington, D. C. Giles Willis Mead, Jr. (1928–2003) was then the director of the laboratory. Dan stayed with the Bureau in Washington for 23 years (Fig. 3), becoming director of the newly formed National Systematics Laboratory in 1960 after Mead moved to Harvard University in Cambridge, Massachusetts.

After Mead left the laboratory, Dan worked alone with the aid of an illustrator, but during his tenure as director he oversaw the expansion of the laboratory and hired first a malacologist Kenneth Jay Boss (1935–) and, then, in 1963, another ichthyologist, Bruce Baden Collette (1934–). Under Dan's leadership the laboratory added two carcinologists, Austin Beatty Williams (1919–) and Isabel Pérez Farfante (1916–), to the staff bringing the professional complement

to four full-time positions. Williams studied decapods and Pérez Farfante specialized in shrimp. Dan's own research focused on the taxonomy of deep-sea salmoniform and ophidiiform fishes and on the general biology of deep-sea fishes. He also spent considerable time during those years with gadiform fishes, as urged by Professor Henry Bryant Bigelow (1879–1967) of Harvard University, who said that studying deep-sea fishes would end with Dan "measuring mackerel in Marblehead" or even worse, "counting smelt on the Miramichi." Dan enjoyed the relative freedom of research that he had with the Bureau and highly valued his contact with the ichthyologists at the USNM, but his laboratory was perpetually starved for funds. In the early days it lacked secretarial help and, according to Dan, the administrative arrangement with Bureau headquarters (unaffectionately named by Mead the "goat barn") across town was "a lousy way to run a ball team." Later, in logic evident only to the bureaucracy, Dan was required to report to the Northeast Fisheries Center at Woods Hole, Massachusetts.

Dan conducted field work aboard a number of research vessels, including the Bureau's JOHN N. COBB, bottom trawling on the continental slope off Washington State; the OREGON, work-

ing in the Gulf of Mexico and in the Caribbean; and the DELAWARE in the North Atlantic. He participated also in a number of oceanic expeditions, including the International Indian Ocean Expedition in 1964 on Cruise 6 of the United States Research Vessel ANTON BRUUN (Cohen, 1972, 1986). This cruise worked from Bombay, India, through the Arabian Sea and south to Mauritius, and then south to the "roaring 40s." Other ichthyologists on that particular segment of the expedition included, among others, Nielsen and Eric Bertelsen (1912–1993) of the University of Copenhagen, Giles Mead and Richard Lee Haedrich (1938–) of Harvard University, and Basil George Nafpaktitis (1929–), then a student at Harvard University. In the fall of 1973, he took part in a cruise of the German fisheries research vessel WALTHER HERWIG II across the Denmark Strait from Iceland to Greenland and then to Portugal. This expedition was led by Gerhard Krefft (1912–1993), along with Alfred Post (1935–) and Matthias F. W. Stehmann (1943–) of the Sea Fisheries Institute, Hamburg, in which Haedrich, Nielsen, and Bertelsen also took part. The vessel fished a large commercial herring trawl (the so-called Rectangular Mid-water Trawl, with an 8 m² mouth opening) in mid-water at 2,000 meters and Dan termed this cruise a "most wonderful experience." Dan also taught and collected fishes aboard the Stanford research vessel TE VEGA in 1965 for three months, sailing from Singapore to Guadalcanal (Cohen and Davis, 1969; Davis and Cohen, 1969). Along with Tomio Iwamoto (1939–), California Academy of Sciences, San Francisco, and Mamoru Yabe (1952–), Hokkaido University, Hakodate, Japan, he also collected fishes aboard the Japanese YAKUSHI-MARU NO. 21 in the Bering Sea in the summer of 1979 (Yabe et al., 1981), among other expeditions.

Dan was a visiting researcher at the British Museum (Natural History) in London during 1966–67, where he was introduced to the rather unusual customs practiced by a few prominent members of the zoology and paleontology departments at the Museum of that era. According to Dan, and well remembered by other visitors during that time, most of the ichthyology staff routinely arrived at the Museum at about 10:00 in the morning, just in time for morning tea. After an extended tea break, and a brief attempt at work, the pub opening time of 11:30 approached and off they went for lunch at a nearby pub. Several pints would be consumed, along with such items as "bangers and mash," pork pie, and Scotch eggs. Upon their return to the Museum, after 2:30 pub closing time, it

was nearly time for afternoon tea. Upon completion of tea, there was little time to work before quitting time and heading home. Such a routine schedule frustrated Dan, as well as other visiting scientists of the period. Dan, along with others, wondered with envy at how Freddy Marshall could be so productive while following the "normal" Museum routine.

In addition to field work and his stint in London, Dan traveled widely to visit fish collections in Denmark, Norway, Sweden, Germany, The Netherlands, Belgium, France, Austria, Russia, Portugal, Italy, Monaco, South Africa, India, China, New Zealand, Australia, and Japan. In 1969–1970, Dan visited Panama as a member of the Committee on Ecological Research for an Interoceanic Canal of the National Academy of Sciences. In 1978, he was part of an oceanography delegation of the National Academy of Sciences to the People's Republic of China (Cohen, 1979), among other consulting assignments. Dan was also Editor-in-Chief of Part 6 of *Fishes of the Western North Atlantic*, published by the Sears Foundation for Marine Research of Yale University (Cohen, 1973).

The year 1981 brought a severe funding crisis—one of seemingly "endless crises," according to Dan—to the National Marine Fisheries Service (name changed in 1980 from the Bureau of Commercial Fisheries) and the Systematics Laboratory was slated for closure. Positions were offered at other Service laboratories for the four scientific staff members. Dan was made a Senior Fisheries Scientist and detailed to the Northwest and Alaska Fisheries Center (now the Alaska Fisheries Science Center) in Seattle. The funding crisis passed quickly, however, and the laboratory remained open but, because of the difficulty entailed in transferring Dan to Seattle, it was not feasible to transfer him back to Washington, D. C., where Bruce Collette then became laboratory director. Dan remained in Seattle for one year, but soon recognized that he was misplaced in a fisheries laboratory as he "was very much a museum person."

A position became available at the Los Angeles County Museum of Natural History (LACM) where, in 1982, Dan became Chief Curator of Life Sciences and then Deputy Director for Research and Collections, holding the latter position until his retirement in 1995. During his tenure at the Museum, some hard times notwithstanding, he was able to recruit scientists for ten curatorial positions, six of which were new. Dan also continued his research on gadoid and ophidioid fishes during those years, authoring or co-authoring over 20 papers on these fishes, including two major contributions on which he

served as a co-author (Cohen et al., 1991; Nielsen et al., 1999).

Dan organized a very successful invitational Workshop on Gadiform Systematics (WOGADS) at the LACM in January 1986, which drew together those ichthyologists whose major interests included the codfishes and their allies (Cohen, 1989). A reception and dinner (at which the wine flowed freely) for the participants, held by Giles Mead around the swimming pool at his home in Beverly Hills will never be forgotten by those in attendance. After dinner, certain renowned ichthyologists stripped to their "BVDs" and tumbled into the pool, marking one of the true highlights of the symposium.

While at LACM, Dan collected shore fishes in the Galapagos Islands in 1984, along with Robert James Lavenberg (1937–), Curator of Fishes at the Museum, and William Albert Bussing (1933–) from the University of Costa Rica, on a trip that among others included John William Wright (1936–), who collected herps. Dan also participated in a cruise to the Arabian Sea and around Madagascar in 1988 aboard the Soviet research vessel VITIAZ, which he remembers as memorable because of the "wonderful" deep-sea collections that were made as well as because of the collegiality of the other ichthyologists aboard (Fig. 4). The chief scientist on this expedition was Nikolas Vasilyevich Parin (1932–) of Moscow and the "foreign" (i.e., non-Russian) scientists, besides Cohen and Bruce Collette, included Nielsen and Bertelsen of Denmark, Nigel Robert Merrett (1940–) of England, Michael Eric Anderson (1946–) of South Africa, John Richard Paxton (1938–) of Australia, and Kenneth J. Sulak (1946–), then of Canada.

Having spent more than a decade looking at the corpses of deep-sea fishes, Dan was deeply interested in using submersibles to look at living ones. His first experience in such a vessel was aboard the DEEPSTAR off New England in the summer of 1972. Subsequent dives in the ALVIN took place in Hudson Canyon in 1975, the Bahamas in January 1977, and the Galapagos rift zone in December 1979. He was chief scientist and co-chief scientist on the latter two expeditions.

Dan is the author or co-author of some 124 scientific publications, generally divided into papers on the taxonomy and biology of salmoniform, gadiform, and ophidiiform fishes as well as on the general biology of deep-sea fishes. He has forged a number of productive research alliances with other ichthyologists; for example, co-authoring more than nine papers with Jørgen Nielsen. Others with whom he has co-

authored two or more papers include Jim Böhlke, William Pierce Davis (1939–), Richard Haedrich, Tomio Iwamoto, Robert Karl Johnson (1944–2000), Giles Mead, H. Geoffrey Moser, C. Richard Robins, Richard Heinrich Rosenblatt (1930–), and John P. Wourms (1937–). Dan is most proud of his work on the ophidioids, in which he examined the historical results of previous workers on these fishes in light of recent collections. This work by Dan and colleagues resulted in the recognition of two suborders in the order Ophidiiformes, based on their modes of reproduction, the oviparous Ophidioidei and the ovoviviparous Bythitoidei (Cohen and Nielsen, 1978; Nielsen et al., 1999).

Dan joined the ASIH as a graduate student in the early 1950s, has attended many of the Society's annual meetings, and has presented about a dozen papers at these gatherings. He was vice-president of the Society in 1969–70, president in 1985–86, and retains life membership on the Board of Governors. Dan has published about 19 papers in *Copeia* and helped edit a book published by the Society, in which he contributed three articles in whole or in part (Moser et al., 1984).

Asked about what he remembers from the many ASIH meetings he has attended, Dan particularly recalls a paper presented by Bruce Collette, while he was still a student, which was criticized by Carl Leavitt Hubbs (1894–1979). Collette calmly and firmly defended his conclusions, a confident and mature response from a student to the then most highly respected ichthyologist. Dan values attending ASIH meetings where he can talk with like-minded people. He is most honored by his election to the presidency of the ASIH and by his selection in 1997 for the Robert H. Gibbs, Jr. Memorial Award for Excellence in Systematic Ichthyology, the Society's highest honor for ichthyologists.

Questioned about the major changes in ichthyology that he has observed during his career, Dan responded that there has been a "sea-change" over the years in the basic approach to systematics, from basing phylogenetic classification largely on subjective criteria, or to use Dan's descriptor, "vibes," to the present use of cladistics, which purports to be a more objective method. Further, Dan feels that hypotheses of relationships will have to be re-examined in light of molecular techniques. A surprise is that apparently many fish species remain to be described. About 200 species are currently being named every year (Eschmeyer, 1998) and that figure seems to be holding steady. Forty-five years ago the figure was about 100 a year.

Dan has long been known for his genuine



Fig. 4. Dan standing next to chief scientist Nik Parin aboard the Soviet research vessel VITYAZ in the Western Indian Ocean, 1988, with (left to right) Matthias Stehmann, Bruce Collette, Jørgen Nielsen, Erik Bertelsen, Eric Anderson, Nigel Merrett, and John Paxton. Courtesy of Jury A. Rudyakov.

concern for students, always interested to know what they are doing and always doing his best to help them along the way. Over the years, many a recent Ph.D. in ichthyology can remember that it was Dan who first got them interested in the ASIH. This deep concern has not waned even in retirement. During a visit to Seattle just last year, Dan was invited for pizza and beer along with a group of a dozen or so University of Washington graduate students. All were surprised and deeply impressed that Dan made the effort to question each one about his or her research in a friendly, non-threatening way that made them all feel that they were doing something truly important. For them it was a brief connection, but one that they will no doubt long remember.

Dan is a fine raconteur, able to regale people with stories of ichthyology and ichthyologists, past and present. Many of these stories cannot reasonably be put to paper or are too long and involved to be repeated here, but one brief example need suffice. In a small European country there were only two active ichthyologists in the nation, but bureaucratic and political institutions kept the two men from meeting each other. While visiting in that country, Dan suggested that the three meet for dinner. After

some initial hesitation and discussion, a meeting was arranged and they shared a fine evening together. The two European ichthyologists subsequently became fast friends and colleagues for many years.

Dan and Anne retired to Bodega Bay, California, where they tend to their garden. Dan is pleased to be a Fellow of the California Academy of Sciences as well as a Research Associate of the Academy's Ichthyology Department, which provides logistical support as he continues to write papers. He serves NOAA as a member of the Sanctuary Advisory Committee for research for the Cordell Bank National Marine Sanctuary.

Postscript.—Dan was interviewed by Ted Pietsch and Jean Dunn on 27 March 2004 at the Cohen residence in Bodega Bay, California. We thank Dan and Anne for their warm hospitality on that occasion. We were particularly entertained by numerous but, alas, unprintable stories told by Dan (with tape recorder turned off) about ichthyology and ichthyologists. Dan's professional papers will eventually be deposited in the Smithsonian Institution Archives, Washington, D. C.

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