

MEMORIAL RESOLUTION

ROLF L. BOLIN

(1901 – 1973)

Rolf Ling Bolin, Professor Emeritus of Marine Biology and Oceanography, died in Carmel, California on August 23, 1973, at the age of 72, ending an association with Stanford that began in 1928.

Rolf was born in New York City on March 22, 1901, second son of Swedish immigrants Jakob Bolin of Stockholm and Hermanna Hedwig Bolin from the old Hanseatic town of Visby on the island of Gotland. Jakob Bolin was a physical education instructor and author of numerous publications on Swedish gymnastics. When Rolf was 9 his father joined the faculty at the University of Utah, and the family resettled in Salt Lake City. Rolf entered the University of Utah in 1919 with an interest in art but undecided on a career. Following his sophomore year he spent a year enrolled in the Chicago Art Institute, and another year roaming about Europe. Returning to Utah he obtained the AB in graphic arts in 1925, married Kathryn Sanders, a fellow student at Utah, and moved to southern California where he worked for two years as an architectural draftsman. Dissatisfied with this life he returned to school, first at U.S.C. where he developed an interest in biology, and then in 1928 at Stanford. Intrigued by the sea and its inhabitants he soon moved to the Hopkins Marine Station at Pacific Grove. He was to remain there for more than forty years.

The Marine Station was in a period of rapid growth, under the direction of Walter Kenrick Fisher. The new Jacques Loeb Laboratory had just been constructed with Rockefeller funds, and the expanding staff included naturalists, chemists, a physiologist, a biophysicist, a microbiologist, and a geologist. Here Rolf fell under the influence of another Swede, Prof. Tage Skogsberg, a planktonologist and oceanographer, and his roving interests settled at last on fishes. In 1929 he completed an M.A. thesis on the gross embryology of Engraulus and Orthonopius. A doctorate followed in 1934, with dissertation entitled "Studies on the California Cottidae: An Analysis of the Principles of Systematic Ichthyology." Fellowship support was scarce during the Great Depression, and all during his doctoral years Rolf worked as an oceanographic assistant to Skogsberg on a hydrographic survey of Monterey Bay, carried out in collaboration with the California Department of Fish and Game. He also taught courses in marine zoology, and on attaining the doctorate in 1934, he was appointed Acting Instructor in Marine Biology and Oceanography. He became Instructor the following year, Assistant Professor in 1937, Associate Professor in 1940, and Professor in 1949. He retired in 1967, after 33 years as a faculty member at Stanford. During much of this time he served as Assistant or Associate Director of Hopkins Marine Station.

His teaching over the years was mainly in three areas. At the Marine Station he nearly always taught the introductory course variously titled Natural History or Ecology of Marine Animals, and intermittently offered a course in general ichthyology. Beginning in 1946 he took over the large class in comparative vertebrate anatomy on the campus which had been taught for many years by Victor Twitty and was a requirement for all pre-meds and other biology majors. The course was a

famous one. Rolf lectured in a loud, clear voice, quite different from his ordinary tone, and easily reached the back row students in the large auditorium without amplification. His lectures were illustrated with beautiful diagrams, drawn while lecturing; students usually teamed up in pairs one to take notes, the other to get the drawings. His recommendation for admission to medical school was greatly sought, and he took the responsibility seriously. He tried to learn all students by name, and he maintained a careful notebook of records, not only of grades but of personal observations on work habits, reliability, keenness of observation, etc., on which he could draw for letters. One student, astonished to be called by name while passing on the stairs, asked "Do you really know all our names?" "No," said Rolf, "Only the characters, like you."

Rolf's research remained largely in the field of systematic ichthyology, an area in which Stanford had been preeminent since the days of David Starr Jordan. Rolf's first love was the Cottidae, a family which includes nearly a tenth of the species of marine fishes known from California and one especially abundant in inshore waters. Studies begun as a graduate student culminated in definitive works on Californian cottids in 1944 and 1947. A second love was the family Myctophidae, or lantern fishes, deep sea forms equipped with light producing organs, which occur in all oceans and are important contributors to the "deep scattering layers" detected by sonic depth recorders. A monograph on Californian forms appeared in 1939, and a Guggenheim Fellowship in 1947-48 provided opportunity to examine museum materials in England, Denmark, Holland, and France. Many of Rolf's later papers dealt with these fishes, and a Scottish colleague once dubbed him "The MacTophid." He served as President of the American

Society of Ichthyologists and Herpetologists, Western Division, and was elected a Fellow of the California Academy of Sciences. He was a meticulous worker, concerned with the description of populations rather than types, and he made use of his artistic talents in illustrating his works. He drew students from abroad as well as from the U.S., and in all some 30 individuals received advanced degrees under his guidance. Himself a skilled writer, he demanded clarity and literacy from his students, and never settled for less. He was proud of the accomplishments and attainments of his graduate students (one of them now heads the Atomic Energy Commission), but, characteristically, he never published jointly with his students, no matter how great his contribution to their investigations had been. Years after his retirement his former students gathered from all over the country to honor him with a surprise "Bolin Bash"; the tribute pleased him mightily.

Rolf loved to go to sea, and while he suffered from seasickness, he never let this interrupt more than momentarily his activity on voyages. He accompanied many expeditions, among them the Stanford-Crocker "Zaca" Expedition to Mexico in 1938, the maiden voyage of R/V "N.B. Scofield" of the California Department of Fish and Game to Mexico and Central America in 1939, the famous Danish "Galathea" Deep-Sea Expedition in the South Pacific and the Tasman Sea in 1952, numerous excursions into the South China Sea while he was a Fulbright scholar at the University of Hong Kong in 1957-58, a trip aboard the "Delos" to the Solomon Islands and New Hebrides in 1959, the "Naga" Expedition to the South China Sea and Gulf of Thailand in 1960, and many later voyages aboard the Stanford ship "Te Vega."

For many of Rolf's earlier years at Stanford the Marine Station lacked its own vessel, and studies at sea were conducted on ships of the Department of Fish and Game or on commercial fishing boats. In 1950, wishing to explore conditions and life in the depths of the Monterey Submarine Canyon, he arranged purchase of a sturdy 40-foot oak-hulled boat from the Public Health Service. It was rechristened "Tage" after the late Professor Tage Skogsberg. The shakedown cruise was a memorable one, for those ashore as well as those aboard; what was expected to be a short evening trip for plankton was nearly 24 hours late in returning. A few miles off the rocky coast a green skipper made a sudden turn while towing the net, and in moments the tow cable was wrapped in a great tangle around the screw. The "Tage" spent the night and part of the next day drifting with the currents in a thick fog while those aboard struggled to free the propeller. Since radio had not yet been installed, those ashore could only tell the Coast Guard to look to the west. They looked in vain. Next day, propeller free at last, the "Tage" started home. The fog was still dense, position after 12 hours adrift was uncertain, and the only navigational assets aboard were a compass, a chart, and Rolf's knowledge and experience. He estimated drift and position and standing in the bow directed the skipper where to go. When the fog finally lifted next evening, those aboard found that Rolf, navigating by the seat of his pants, had brought the "Tage" almost to the very entrance of Monterey harbor. Radio, direction finder, and fathometer were quickly installed, and for 23 years the "Tage" has sailed the Bay and coastal waters, taking hydrographic and biological samples for teaching and research under numerous state and federal grants. It is still in active service.

Rolf also arranged the acquisition in 1962 of a much larger vessel, as a gift to Stanford. "Te Vega" was a steel-hulled, diesel powered schooner, 100 feet long at the waterline, built by the Krupp works in Germany in 1930. Financed by an NSF grant, Rolf converted the ship into a floating laboratory and classroom, its purpose to give a dozen students at a time some direct experience with biological oceanography under a shipboard faculty of three. It was to operate much as an overseas campus, a sort of "Stanford on the High Seas", with cruises divided by academic quarters and a turnover of faculty and students at selected ports of call. The ship sailed from San Diego in the summer of 1963, first faculty and students aboard, and headed for the Indian ocean, anticipating participation in the International Indian ocean Expedition in 1964. Eight cruises were completed before the ship reached home again. Even a partial roster of ports is enough to stir the blood: Hawaii, Fiji, Solomons, New Guinea, Celebes, Zamboanga, Sumatra, West Thailand, Ceylon, Mauritius, Madagascar, Mombassa, Seychelles, Maldives, Andaman Sea, Penang, Singapore, Borneo, Pulau Gaya, Sulu Sea, Rabaul, Kieta, Honiara, Rennel I., Vanikoro, Tikopia, Suva, Tonga, Pago Pago, Tokelaus, Canton I., Christmas I., Fanning, and many more. "Te Vega" dropped anchor in Monterey early on September 5, 1965, at the end of Cruise B. She had been away 26 months, and had served as a working base for 84 graduate students and 32 senior scientists. Thereafter "Te Vega" made her home in Monterey, with shorter cruises to the Gulf of California, Galapagos Islands, and the Eastern Tropical Pacific. Rolf directed the program until his retirement in 1967, and himself served as Chief Scientist on eight of the twelve cruises taken by that time. There were mishaps; a broken main drive shaft off Sumatra, fire in the engine room off Gan, a storm east of the Maldives which blew

the larger sails to ribbons, and others, and living within the NSF budget was always a problem, but the program was a noteworthy success; more than 50 papers resulted from the cruises before Rolf's retirement, and in their individual evaluations of each cruise many students listed their participation as the high point in their lives.

In his retirement in Carmel, California, Rolf and his wife, Kay, devoted themselves to the culture of orchids, particularly rare and unusual species from far-off places. Always an enthusiastic home gardener, Rolf acquired an interest in orchids during a stay in Sydney, Australia, in 1957. He founded the Carmel Orchid Society and served a term as its President. His plants took many prizes in Californian exhibitions, his greenhouses at home were showplaces for visiting botanists and orchid culturists, and he lectured to many interested groups stressing appreciation of natural species rather than the production of spectacular hybrids.

Rolf's home was always open to visitors, and one of his greatest pleasures was entertaining students and visiting scholars, regardless of field of interest. He was a genial host, and many who were not concerned with the details of his research on fishes remember him as a splendid raconteur, and a warm-hearted human being. His final illness was mercifully short. He is survived by his brother, Nils, his wife, Kathryn, their daughter, Barbara, and three grandchildren.

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