

HISTORICAL PERSPECTIVES

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Richard Emmett Etheridge

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RICHARD EMMETT ETHERIDGE is a Professor Emeritus of Biology at San Diego State University whose career as a herpetologist has spanned more than sixty years. As a consequence, his biography reads like a who's who of twentieth century herpetology. Although best known for his highly influential research in lizard systematics, Richard is also a former boy snaker, Navy sonarman, accomplished mentor, Zen practitioner, world traveler, birdwatcher, and chocolate aficionado.

Richard was born on 16 September 1929 in Houston, Texas, the first child of Ethel Agatha Hans and Jerry Haller Etheridge. Richard's father was born in Dallas, Texas, and joined the Merchant Marines after leaving high school. During the Great Depression, he worked for the Ford Motor Company and eventually owned his own automobile parts and repair company. Richard's mother was born in southern Texas; she married Richard's father not long after graduating high school and became a homemaker. Richard's only sibling, Jerry Haller Etheridge, Jr. (deceased), was a Professor of Music at the University of Georgia, Atlanta. Like their parents, Richard and Jerry were raised in Houston.

Richard's childhood was unhampered by parental expectations; he and his brother were encouraged to pursue whatever careers they wished. As is the case for many herpetologists, Richard can trace his interests in amphibians and reptiles to a specific event that occurred early in his life. In 1944, at the age of 15, Richard had his first encounter with a snake. As recounted in his words, this would prove to be a life-defining moment.

"I was walking across an overgrown field on the University of Houston campus, when I looked down and saw a very large, very fat garter snake lying in the trail in a bright spot of sunlight. It had three bright yellow stripes and a red and brown checkerboard pattern in between. It did not move when I picked it up. When I brought it home and told my parents that I wanted to keep it, my father built a small cage for it and the next day brought me a book: Ditmars "Snakes of North America." I was hooked. The garter snake had about 20 babies so I built a larger cage, and began to hunt for more snakes in the woods and fields close to home. By the time I was 17, I had a garage full of snake cages with rattlesnakes, copperheads, a coral snake, water moccasins, various water snakes, a hog-nosed snake, king snakes, etc."

Richard's mother had been bitten by a copperhead (*Agkistrodon contortrix*) and was, therefore, understandably

opposed to having snakes in her house. But his father, recognizing that Richard had never shown such an interest in anything else, convinced her that they should support their son's hobby.

While still in high school, Richard became acquainted with other nascent herpetologists. He met William "Billy" Milstead, another "snaker," quite by accident, and the two, along with Walter Abbot (a lepidopterist), would venture out on local collecting trips almost every weekend. Milstead and Abbot taught Richard the basics of field biology, such as using scientific names, and recording localities, habitats, and other noteworthy observations in field notes. Not long after Richard met Milstead, Walter Auffenberg arrived in Houston, having just been discharged from the Navy. Auffenberg immediately began accompanying Etheridge, Abbot, and Milstead on their fieldtrips. During this time, the three young herpetologists attended a meeting of the Texas Herpetological Society, where they met Karl Schmidt and Bryce Brown. Gradually, Richard became almost as interested in other reptiles and amphibians as he was in snakes, and he began to build a collection of preserved specimens, each catalogued with a unique number. Most of this collection was eventually donated to the University of Michigan Museum of Zoology (UMMZ), but some representatives were retained for the herpetology collection Richard started when he was hired at San Diego State University. It was about this time that Richard realized it was possible to make a career of "playing with snakes." All he had to do was earn a Ph.D. and get a job teaching somewhere.

Education: undergraduate through M.S. degree.—Richard graduated from high school in the spring of 1947 and started his freshman year that fall at the University of Houston (UH). He continued his weekend trips into the field with Abbot, Auffenberg, and Milstead, and that year they visited the Sarpy Refuge in southwestern Louisiana to look for alligators. There the group met up with Fred Cagle and his graduate students from Tulane University, who were collecting turtles and snakes. Cagle's group had a number of cages each with a tag listing the species inside. Richard and his friends proceeded to tell Dr. Cagle (having no idea who he was) that the species names for most of his water snakes and turtles were incorrect, and why. The next morning Cagle asked Richard to consider attending Tulane University. Richard's parents told him that they could afford it if he really wanted to go, and Richard was soon enrolled at Tulane.

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The summer after his freshman year at UH, and before starting at Tulane, Richard worked on a research project at Rockport, Texas, comparing the herpetofauna of the mainland with that on St. Joseph Island. Because the island was only about a meter above sea level, had never been connected to the mainland, and was periodically wiped clean by waves during hurricanes, every species that lived there had to have colonized after the last catastrophic weather event. Richard lived on a houseboat with three ichthyology students from Texas A&M. They spent weekdays anchored off the island, with Richard going ashore every day to conduct his surveys. This study formed the basis of Richard's first paper, which was a report for the Texas Game, Fish and Oyster Commission (Etheridge, 1948a).

In the fall of 1948, Richard began his sophomore year at Tulane. He recalls many of his early experiences there with great fondness. Although still an undergraduate, he was treated like a graduate student: he had his own desk in the graduate student lab and an open invitation to the lab fieldtrips. There he began assembling data he had collected on a unique color variant of *Coluber constrictor* from east Texas. Later, he sent his scale counts, maps, etc. to Larry David Wilson, who described it as a new subspecies: *C. c. etheridgei* (Wilson, 1970). That year he also published his first peer-reviewed paper: a note on the range of the snake species *Arizona elegans* in Texas (Etheridge, 1948b). He spent the summer of 1949 with Walter Auffenberg and Donald Tinkle collecting herps in Florida, and took his first trip to Mexico, traveling as far south as Veracruz, with Abbot. A skink collected on that trip and later sent to Hobart Smith resulted in a coauthored paper (Smith and Etheridge, 1953). Summer 1950 was spent collecting turtles in east Texas, Louisiana, and Florida with Cagle and his field crew.

Richard graduated with his B.S. in Zoology (minor: Botany) from Tulane in spring 1951. He had intended to continue in graduate school at Tulane, but Cagle advised him to get his Master's degree first from the University of Michigan (UM) in Ann Arbor (where Cagle had received his Ph.D.), then to return to Tulane for his doctorate. That summer Richard took courses in Entomology and Limnology at the UM Biological Station at Douglas Lake, Michigan, and went collecting in southern Veracruz with James Foot, Bill Hazen (who was later Richard's colleague at San Diego State University), and Clarence Smith. That fall Richard began graduate school (M.S. program) at UM. He got a job cleaning cages in Lee Dice's famous deer mouse (*Peromyscus*) genetics lab. He also spent time in the Herpetology Division of the UMMZ, where he was "blown away" by the size of their collections and the fact that the only duties of the curators, Norman Hartweg and Charles Walker, were to conduct herpetological research and to teach a course in herpetology—once in a while. Because the Master's program at UM did not require a written thesis, Richard completed the program in just one year (1952) and was able to spend most of his time on class work and publishing. Richard's graduate cohort at UM included Bill Duellman, who had just started, Albert Schwartz, who was about mid-way through, and Jim Peters, who was just finishing.

After completing his M.S. degree in Zoology at UM, Richard immediately returned to New Orleans with the intention of beginning doctoral work at Tulane. However, the Korean War had started, and Richard's application for an educational deferment from the draft had been rejected, so he joined the Navy.

Military service.—A few days after joining the Navy in 1952, Richard found himself in boot camp in San Diego, California, where he subsequently spent six months at sonar school. On his first liberty in San Diego he visited Lawrence Klauber, who welcomed Richard into his home, showed him his lab and extensive library, and allowed him to collect a *Batrachoseps* in his garden. In April 1953, Richard reported aboard the USS *Vesole*, a radar-picket destroyer that was stationed at Guantánamo Bay, Cuba. He collected some lizards, snakes, and a frog on the base, and made additional collections while on liberty in Jamaica (where he met Garth Underwood), Haiti, and Puerto Rico. The frog was a new species of *Eleutherodactylus* and one of the lizards a new subspecies of *Leiocephalus*, both described by Albert Schwartz (1958, 1960). The specimens (later donated to UMMZ) were stored in a jar in Richard's footlocker, for which Richard had received special permission from the Captain. His ship's homeport was Norfolk, Virginia, but it was soon dispatched to joint U.S.–European Naval operations in the North Sea. Richard recalls a horrendous storm in the Straits of Denmark (between Iceland and Greenland) where the ship was "taking waves 70–80 feet high and doing 50-degree rolls." Eventually they turned south, passed through the Strait of Gibraltar into the Mediterranean Sea and, after almost a month at sea, made port at Cagliari, Sardinia. Other ports of call included Marseilles, Valencia, Lisbon, Genoa, and Livorno.

The *Vesole* returned to Norfolk in February 1954, and in March Richard spent a weekend with Al Schwartz collecting in South Carolina, which resulted in a paper on range extensions (Schwartz and Etheridge, 1954). In June, Richard's ship again crossed the Atlantic, with ports-of-call in La Caruña and Antwerp, from which he took a tour to Paris. Richard was enrolled in sonar school in Key West, Florida, in August and September, during which time he also attended the ASIH meeting in Gainesville.

From January to June 1955 his ship traveled throughout the Mediterranean, with stop-offs in Algeria, Messina, Athens (where Richard saw his first wild agamids), Palermo, Cannes, Marseilles, Barcelona, Lisbon, Rhodes, and Beirut, from which he took a tour to Jerusalem, Bethlehem, and the Dead Sea. The ship spent June in dry-dock in Philadelphia, Pennsylvania, during which time Richard spent weekends with Roger and Isabel Conant (whom he had met while attending his first ASIH meeting; see Association with ASIH, below) at their home on Taunton Lakes in Medford, New Jersey. His ship returned to Guantánamo Bay in November.

Richard's ship was again in the Mediterranean in early 1956, visiting the Riviera (Cannes, St. Rafael, Monaco, Niece—from which Richard took a ski trip to Valberg in the Maritime Alps), Palermo, Naples (from which Richard took a trip to Rome, where he met and shook hands with Pope Pius XII at Castle Gandolfo—he was told the Pope liked sailors), Palma de Mallorca, and Crete (where he collected lacertids). In June, they returned to Norfolk, where Richard was discharged with the rank of First Class Sonarman, though he was required to remain on inactive reserve for an additional four years.

Education: doctorate through post-doctorate.—Shortly after his discharge from the Navy in the summer of 1956, Richard joined Bill and Ann Duellman in Oaxaca and spent the remainder of the summer collecting in Mexico (Fig. 1). He

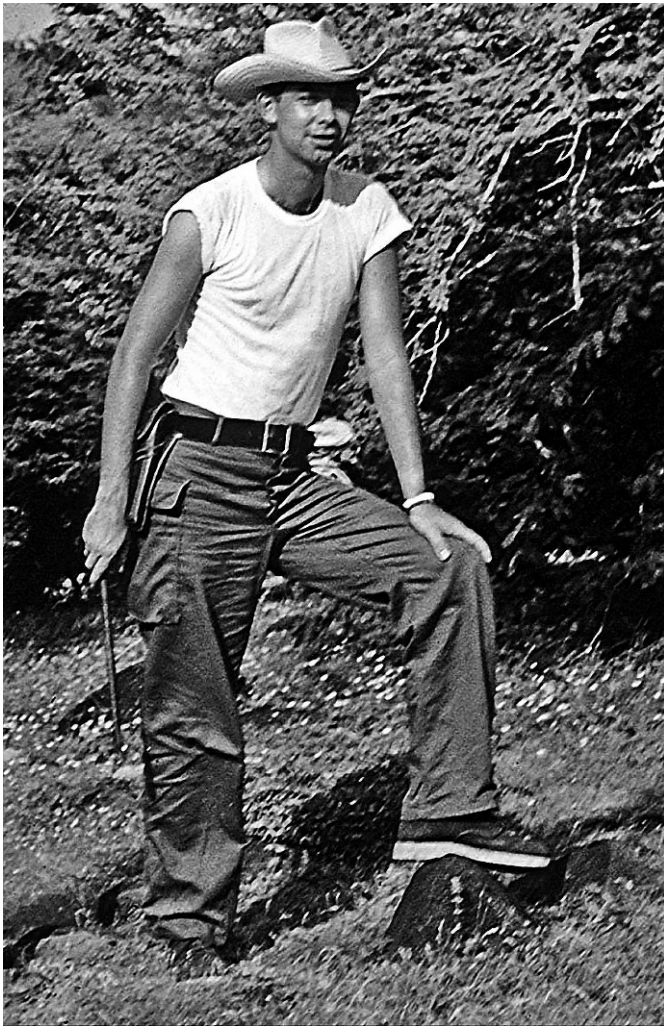


Fig. 1. Richard Etheridge in Michoacán, Mexico (1956). Photo by Ann Duellman, courtesy of Bill Duellman.

returned to Ann Arbor that fall to begin his doctoral studies at UM. Richard's reason for attending UM for his Ph.D., rather than returning to Tulane as previously planned, was that he thought he would be unable to concentrate on his studies given the many distractions in New Orleans. Richard's advisors at UM were Norman Hartweg and Charles Walker. The graduate students in his cohort included Jim Mosimann, George Rabb, Holly Starrett, and Tom Uzzell. Bill Duellman, having completed his Ph.D., was still working at the UMMZ. Richard credits his UM lab mates with greatly influencing the way he approaches herpetological questions. Richard got a job as a curatorial assistant in the UMMZ's Division of Herpetology and began thinking about research projects for his dissertation.

By spring 1957, Richard had a plan for his dissertation research: he would run a transect for an eco-biogeographic study of the herpetofauna of the Sierra de los Tuxtlas in Veracruz. But fate stepped in. Shortly before summer, he fell in the stairway at the UMMZ and broke his arm while he was tending to one of his duties as curatorial assistant in the Division of Herpetology: feeding the live Gila Monster (*Heloderma suspectum*). This accident forced him to postpone the fieldwork. Meanwhile, he had started a collaboration with Bill Duellman and Al Schwartz to study *Anolis carolinensis*; Bill was to cover the geography, Al would do the morphometrics, and Richard would count the scales. At

that time there was no standard nomenclature for the head scales of anoles. Richard drew a picture of the head scales, then skinned the head and prepared the skull, planning to overlay the scale pattern on the skull surface and thereby come up with a scale nomenclature corresponding to that of the underlying bones. About that time he discovered that the UMMZ had a small collection of *Anolis* skulls that had been prepared for Alexander Ruthven long ago when he and Thomas Barbour had decided to revise the genus (they ultimately abandoned the task). But when Richard examined these skulls he made an important discovery that forever changed his research focus. Among the *Anolis* species he examined, there were "some radical osteological differences, some of which were at odds with what Cope had described long ago." Richard was hooked. He prepared more skulls and complete skeletons, and soon began taking low-voltage radiographs of a large number of specimens so that he could examine and compare their more delicate postcranial elements. Richard was the first to collect radiographic data on reptiles, having learned the technique from colleagues in the UMMZ's Division of Fishes. He soon realized that anole morphology and systematics offered more than enough fodder for a dissertation.

Richard continued his studies of anoles and his course work, and was a teaching assistant (TA) for Comparative Anatomy in 1957. Later that year he took a trip to Los Tuxtlas with Bill Duellman and visited the collections at the American Museum of Natural History (AMNH), Museum of Comparative Zoology (MCZ), United States National Museum (USNM), and the Academy of Natural Sciences (ANSP). He took a trip to Key West in the summer of 1958 with Charles Walker to collect a large series of *Anolis carolinensis* and *A. sagrei* to use for studies of individual variation, sexual dimorphism, and ontogenetic change in the skeleton. He returned to Ann Arbor with hepatitis. In August, Richard went to Bloomington, Indiana, for the ASIH meeting, and was awarded the Stoye Award for his talk on lizard caudal vertebrae. He also became the first graduate student to be elected to the ASIH Board of Governors. Later that year, he presented a paper on fossil lizards from Kansas at the Michigan Academy of Science meeting, and returned to the collections at AMNH, MCZ, USNM, and ANSP, staying again with Roger and Isabel Conant while in Philadelphia. He began writing his dissertation in November. On Richard's first visit to the MCZ, Ernest Williams was generous in allowing him to borrow a large number of *Anolis* species and to prepare skeletons of many of them. However, Williams was initially very skeptical of Etheridge's findings because they implied that externally similar anoles were not closely related. Eventually Williams came to accept Etheridge's results, which indicated largely separate adaptive radiations of anoles on the large islands of Cuba, Jamaica, Hispaniola, and Puerto Rico. Richard's findings also laid the groundwork for much subsequent research on *Anolis* by Williams and several of his academic and intellectual descendants that continues to the present day.

Richard applied for postdoctoral fellowships from the National Science Foundation (NSF) and the National Institutes of Health in July 1959 to work on iguanid systematics with Jay Savage at the University of Southern California (USC). He was awarded both, and decided to take the NSF fellowship. After defending his dissertation in September, Richard left Ann Arbor for Los Angeles. Because the fellowship did not begin until January, he taught general

biology at USC that fall semester. Dave Wake and Arnold Kluge were working on their Master's projects and Holly Starrett was there on a postdoc. Richard began accumulating skeletons of sceloporine (now phrynosomatid or phrynosomatine) lizards with the intention of reexamining Jay's recently published work on the relationships of the genera, and also began preparing parts of his dissertation for publication.

As soon as his postdoc was activated (1960), Richard bought a low-voltage X-ray machine. Ernest Williams started sending him new and unidentified species of anoles to radiograph, which occupied a lot of his time. With the expansion of the database for West Indian anoles, Ernest asked for permission to use Richard's unpublished data to support his studies of West Indian anole biogeography and, later, to write about island radiations and ecomorphology. In his usual generous fashion, Richard agreed, which allowed him to focus most of his time on sceloporines. Later that year Richard made trips to Isla Cerralvo, Baja California, to collect *Sator* (now within *Sceloporus*) and other herps, to the summit of the Sierra Laguna in southern Baja, and to Mazatlán with Roy McDiarmid. He also visited the UMMZ, Stanford, and the Museum of Vertebrate Zoology (MVZ), and attended the ASIH meeting in Chicago.

Richard taught herpetology in the fall of 1961 at USC, with Dave Wake serving as his TA; Arnold Kluge and Marvalee Hendricks (now Wake) were students in the course. That summer, Richard attended the ASIH meeting in Austin, Texas and spent the rest of the season in Peru with Dave Wake at an oil exploration camp on the Río Izcozazin, a distant tributary of the Amazon. Dave became very ill with cholera and had to return early, but Richard stayed on to complete the planned trip. On the way back, he took short tours of Cuzco and Machu Picchu.

San Diego State University.—Unlike many academics, Richard spent his entire professional career at a single institution: San Diego State University (SDSU). He was hired initially as a sabbatical replacement (Assistant Professor) to teach Human Anatomy. Dave Jameson (another Texas herpetologist at SDSU) asked him to apply for the job, but told him that the department was not likely to hire a third herpetologist from Texas (Donald Hunsaker was the second). His interview seminar was on lizard caudal vertebrae. Richard recalls, "I didn't exactly lie about it, but I didn't correct the faculty when they assumed I was an anatomist from Michigan." Although SDSU has recently earned the honor of being ranked the Top Small Research University (Academic Analytics, 2008), the attitude toward research at the time of Richard's hiring (1961) was decidedly different. Indeed, SDSU (originally chartered as San Diego Normal School) was created in 1897 to provide local education for future female schoolteachers (Starr, 1995). The emphasis on teaching had not changed much by the early 1960s, as evidenced by an admonition Richard received from the Dean of Biological Sciences on his first day: "Everyone knows that it is impossible to do research and to be a good teacher at the same time." Consequently, Richard did not tell anyone when he and paleontologist John Stephens applied for and were awarded an NSF grant to spend the following summer looking for Late Pleistocene fossils in Mexico (as hard as it is to imagine concealing a successful grant in today's get-funded-or-perish environment). The following summer Richard received an offer from the Florida State Museum to work

on their West Indian fossil lizards, which had been collected by Auffenberg. After sorting the fossils for a couple of weeks in Gainesville, Richard took them to UMMZ and spent the rest of the summer in Ann Arbor studying them. During 1963–1966, he continued working on these fossils and on various aspects of the systematics of iguanian lizards (Etheridge, 1964a, 1964b, 1965a, 1966a, 1966b, 1966c), taking short collecting trips to Mexico, attending ASIH meetings, and working in various museums during the summers.

As a biology professor at SDSU, Richard taught a number of courses, including Human Anatomy, Vertebrate Zoology, Comparative Vertebrate Anatomy, Herpetology, and several seminars. Until the mid 1980s, Richard was saddled with a heavy teaching load: three courses with labs per semester. He first taught Herpetology in 1963 as a seminar in which Linda Maxson was a student. Eventually Herpetology evolved into a senior-level course with two lectures and a 4-hour lab each week. Those who have taken Richard's Herpetology course will attest that it was among the most challenging and enriching of their academic careers. The course focused on the origins, systematics, and biogeography of amphibians and reptiles, with the labs emphasizing the diagnostic characters of each family within the major groups. The following is recounted by Espinoza, who took the course in 1987. On the first day of class Richard set the pace: each student was given a *Ctenosaura* skull and told to learn the names of the bones and be able to identify them. The test, just two days later, was oral and one-on-one. Richard's lectures were packed with information. To keep up with his pace, we had to arrive at least 15–30 min before class started (0800 sharp) to copy all the supporting figures he had drawn on the board earlier that morning. The exams were similarly challenging. The questions were broad, and if the space allotted for answers was insufficient, we were encouraged to "continue on the backside if necessary." For lab practicals, we were often presented with a single bone, from which we were expected to identify the family by citing the diagnostic characters. If none was present, identification was expected to follow a process of elimination, ultimately listing the additional characters needed to make a positive determination. The semester culminated in a comprehensive final that took nearly five hours to complete.

After attaining the rank of Professor in 1968, Richard served a three-year term as Chair of his department. He took sabbaticals in 1967, 1975, and 1982, which were invariably spent visiting natural history museums in the U.S. and Europe to examine and redescribe the types and record data from additional specimens for his highly influential revisionary work on iguanian lizards (e.g., Etheridge, 1968, 1969, 1970a–g, 1982, 1995; Etheridge and Williams, 1985, 1991; Etheridge and de Queiroz, 1988; Frost and Etheridge, 1989; Frost et al., 2001; Wiens and Etheridge, 2003). During most of the 1970s, Richard was immersed in preparing a checklist of the pleurodont iguanians for *Das Tierreich*. This was a huge undertaking, especially considering that it took place before the computer era. Consequently, Richard had to have his mechanical typewriter modified to include diacritical marks and other special characters, and mistakes had to be fixed with correction fluid. The checklist, once nearly completed, occupied about a foot of shelf space. Richard's attention was diverted, however, by an invitation from the late José Ceí to work in Argentina, and he has only recently returned to complete the compilation, which will be coauthored by Darrel Frost.

Richard made his first trip to Argentina in 1983 to examine their iguanians (initially focusing on *Pristidactylus*) at the beckoning of Cei, who served as his host. While in Tucumán, he also met Raymond Laurent and other herpetologists at the Fundación Miguel Lillo (FML). Cei, Laurent, and others from the FML band (particularly Monique Halloy and Fernando Lobo) became close colleagues as Richard ventured deeper into the realm of austral iguanians (especially the "*Liolaemus* group," now Liolaemidae or Liolaemini). He would describe ten new species belonging to this clade (Cei et al., 1983; Etheridge, 1992, 1993, 2001; Valladares et al., 2002; Etheridge and Christie, 2003), bring clarity to several problematic species or species complexes (Etheridge, 1993, 1998, 2000; Etheridge and Christie, 2003; Etheridge and Savage, 2003, 2006), and elucidate the functional morphology and evolution of sand-burrowing behavior in one specialized subclade (Halloy et al., 1998; Etheridge, 2000). Ultimately, Richard proposed the first comprehensive revision and phylogenetic taxonomy of the group (Etheridge, 1995) and assembled a bibliography and list of all recognized taxa (Etheridge and Espinoza, 2000). Richard officially retired from SDSU in 1992 but has continued to conduct research and to publish as Professor Emeritus. In fact, his publication rate experienced a rapid increase following his "retirement." Richard will celebrate his 80th birthday in 2009, but he has no plans to discontinue his research or publishing.

Graduate students.—Richard never married and has no children. Nevertheless, his "cultural fitness," consisting of the knowledge and ideas passed on through his students, is considerable. Because Richard worked at a university that lacked a doctoral program, his name is not followed by a list of students in the academic genealogies assembled for herpetologists (e.g., Adler et al., 1989, 2007). Regardless, Richard's Master's students have been numerous and include some of the most influential herpetologists of our time, a fact in which Richard takes great pride: "My greatest joy has been watching my students succeed." Indeed, one of Richard's greatest contributions to herpetology has been his students.

Over more than three decades Richard served as the principal advisor for 16 graduate students who completed their Master's degrees: William F. Presch (M.S. awarded in 1967), Robert J. Epting (1970), R. Peter Yingling (1972), Julian C. Lee (1973), Thomas R. Cozens (1974), Gregory K. Pregill (1975), Troy A. Baird (1980), Jacques A. Gauthier (1980), Charles R. Crumly (1981), Margery L. Stinson (1984), Kevin de Queiroz (1985), L. Lee Grismer (1986), Mathias Lang (1987), Jimmy A. McGuire (1994), Bradford D. Hollingsworth (1995), and Joseph L. Newsome (1997). Among these students, ten performed systematic studies and six conducted ecological or behavioral research. All had amphibians or reptiles as research subjects. Given Richard's own research emphasis, perhaps it is not surprising that 75% of his students worked on lizards. Twelve (75%) of his M.S. students went on to earn their Ph.D.s, and ten of these became professional herpetologists. Collectively, Richard's students have so far published more than 630 papers and trained more than 90 of their own students. Inclusive fitness indeed!

Being an Etheridge student is not something to be taken lightly. One can imagine that the success achieved by "older siblings" would place considerable (self-imposed) expecta-

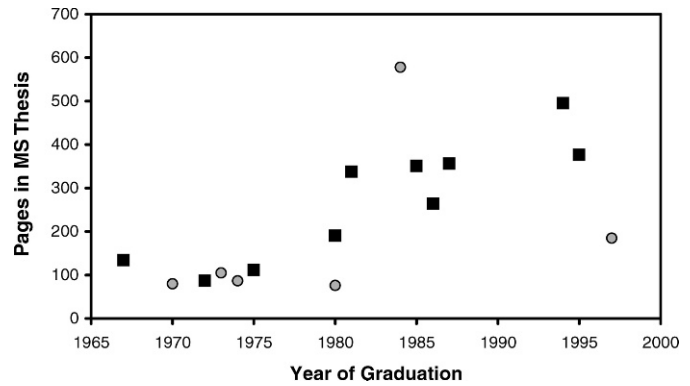


Fig. 2. Length of theses of Richard Etheridge's Master's students. Black squares represent systematics students ($n = 10$), and gray circles represent ecology/behavior students ($n = 6$).

tions and pressures on subsequent students as they developed, executed, and wrote up their M.S. theses. The ever-increasing lengths of the theses produced by Richard's students seem to corroborate this hypothesis. Regression analyses of number of pages in the thesis as a function of graduation date reveals a significant ($P = 0.006$) increase in thesis length over time. This relationship also holds when the theses are sorted by discipline and analyzed separately (systematics: $P = 0.001$; ecology/behavior [after removing a 578-page outlier in 1984]: $P = 0.046$; Fig. 2). In fact, if Richard had a M.S. student who graduated in 2008, the expected length of the thesis would be nearly 550 pages!

A high degree of success with graduate students does not come by accident. Richard attributes it to his hands-off mentoring philosophy, which he learned from his mentors Hartweg and Walker at UM.

"Both of them provided me with a place to work and were always ready to answer any questions or give advice if I asked for it. Otherwise they left me alone. No one ever suggested what I should work on. I believe their wisdom in this greatly facilitated my graduate research and has served as a model for my own mentoring."

Richard also credits what he learned in a seminar on social biology led by Marston Bates (a mosquito ecologist at UM) for the mentoring strategy he ultimately adopted for his own students.

For Richard, mentoring graduate students is like cultivating a garden, an activity for which contrasting approaches are exemplified by French and English gardeners. The French gardener decides in advance exactly what the garden will look like and makes a detailed plan as to how each plant will be shaped and pruned. Thus, when the garden is mature, it comes out exactly as the gardener intended it to look. In contrast, the English gardener carefully selects each specimen, provides it with plenty of room, water, and fertilizer, and then just sits back and waits for each plant to develop into the best and healthiest specimen possible. No cutting, no shaping, no forcing it to conform to some preconceived form. As Richard's students can attest, he favors the English-gardener approach. In Richard's words, "allowing students as much latitude as possible, and at the same time giving them as much support as you can, is the way to go."

Richard also had a significant mentoring role in the early careers of several other scientists (mostly herpetologists),

including Robert Espinoza, Darrel Frost, Jeff Graham, Monique Halloy, and Van Wallach.

Association with ASIH.—Richard has been a continuous member of ASIH since 1947. During that time he has missed no more than a half dozen annual meetings. As an ASIH member, he served two terms on the Board of Governors (1959–61 and 1968–71) and as Index Editor for *Copeia* (1963–64). He has also been a member of other herpetological societies for more than 40 years. When asked how his membership in ASIH has influenced his professional career, Richard responded: “All the manuscript reviews I have received from *Copeia* referees were useful, albeit not always positive. Being a reviewer helps me keep up with the field.” Richard also has many fond memories of ASIH meetings and counts these as vital to his career because they “connect me to people that I would not get exposed to on my own.” He also notes that the most obvious difference between his first ASIH meeting (1947) and those today is the substantial increase in attendance by women, many of whom are being elected to the highest positions in the society. Also, in the past it was more common to meet on a campus and stay in dorms rather than big hotels. That ASIH regularly meets with other societies and has poster sessions are also relatively new.

Richard recalls his first ASIH meeting with remarkable detail. It was the summer of 1947, when Auffenberg, Etheridge, and Milstead took a train to New Orleans, Louisiana, to attend their first meeting. There, Edward Taylor introduced himself and asked about their interests in herpetology. He had just returned from Southeast Asia, and regaled them with a story about collecting a huge King Cobra (*Ophiophagus hannah*) on the way to the airport. After getting out to catch the snake, Taylor rode all the way to the airport with it on his lap! Richard recalls Auffenberg approaching Karl Schmidt to ask about the status of a species of coral snake, as Walter was compiling a list of all the New World venomous snakes. Schmidt answered that he did not recognize the name, to which Walter responded incredulously, “But you described it!” Schmidt countered, “Oh well, I’ve described so many coral snakes I can’t remember all of them.” The first social event of the meeting was called the “Smoker,” at which almost everybody smoked, and drank large amounts of alcohol. This was followed by the Board of Governors (BOG) meeting. By the time the BOG meeting started, some governors could hardly stand up, and others would give long, disjointed speeches. Some even fell asleep. Although ASIH now schedules the BOG meeting *before* the first social, the behavior of some contemporary governors is disconcertingly similar to what Richard observed in 1947!

At the next social event, Richard walked into a tent with large bowls of seafood and hors d’oeuvres. He recounts:

“The only person there was a rather frumpy old woman peering into the bowls one at a time. I assumed she was one of the staff, but she turned out to be Dr. Doris Cochran, curator of Herpetology at the Smithsonian. Later, at one of the socials, I introduced myself to Cochran, and asked her a question about *Pseudacris* in east Texas. She said she would take me to the expert, and proceeded to lead me by the hand like a five-year-old through crowds of drunken herpetologists (I was mortified) until we finally found Dr. Charles Walker, who was not in too good of shape himself.”

At the outdoor picnic, now an ASIH tradition, Richard sat at a long table and was served crawfish bisque. On his left was Doris Cochran and on his right was Henry Fitch. Cochran asked Fitch what was he doing now, and Fitch answered that he was working on some ecological studies. After a long pause Cochran said, “Well . . . I guess that’s important too.” Across from Richard was Roger Conant, who introduced himself and asked where Richard was from and what kind of water snakes occurred there. Richard named all the species, and when he got to *Natrix* [now *Nerodia*] *erythrogaster flavigaster*, he jabbed, “A yellow-bellied, red-bellied water snake! What kind of idiot would come up with a name like that?” Conant had, in fact, described this subspecies. Despite the comment, Roger and Richard eventually became great friends. At the closing banquet, each table of four had two bottles of locally produced orange wine. Richard recalls:

“Walter Auffenberg and I and a deaf gentleman and his wife shared a table, but the couple didn’t drink. Walter and I were wearing rubber hip boots because a fieldtrip to look for *Amphiuma* in the drainage ditches of a small town near New Orleans was scheduled for after the banquet. We both stuffed a half-full bottle of wine in our hip boots and got on the bus. Imagine a busload of mostly drunken herpetologists stumbling around in the drainage ditches along a neighborhood street in the middle of the night, their headlamps flashing in all directions, trying to catch huge slimy *Amphiuma* with their bare hands, yelling curses all the while.”

Professional accomplishments and personal reflections.—In total, Richard has published nearly 1,000 pages in 57 peer-reviewed papers (including nine in *Copeia*), most of which are about lizards (both extinct and extant). Many of his papers are morphological treatises or systematic revisions that have set the benchmark in specific research areas. He has also named 13 species of lizards, including three fossil taxa. Most (66%) of his papers are sole-authored. It is noteworthy that Richard never included his name on publications stemming from the theses of his Master’s students. His first paper was published in 1948, and his rate of publishing has not decreased in more than 58 years of publishing. Indeed, the last 20 years have been his most productive. In recognition of Richard’s work in the area of lizard taxonomy and systematics, his colleagues have named eight taxa, including one fossil lizard species and a genus of Asian colubrid snakes, in his honor. Richard’s career and contributions to herpetology were honored by his former students and colleagues in a daylong symposium and dinner (“roast”) at the Penn State ASIH meeting in 1998 (Fig. 3).

Looking back on his more than 60-year career in herpetology, Richard considers the most significant change in his field to be the increasing interest and methodological controversy surrounding the reconstruction of phylogenetic trees (although it troubles him that the debates are sometimes acrimonious). Despite his many years as a “tree builder,” he considers that trade to be less interesting than that of “tree user.”

“While trees may be beautiful to look at, their real function is to facilitate studies of evolutionary change—in structure, behavior, physiology, etc. and geographical movements in time. This is beginning to happen and I



Fig. 3. Richard and 11 of his protégés (including ten former M.S. students) at the Penn State ASIH meeting (1998) following a symposium and dinner in his honor. From left to right: Jim McGuire, Troy Baird, Lee Grismer, Kevin de Queiroz, Chuck Crumly, Richard Etheridge, Bill Presch, Greg Pregill, Jacques Gauthier, Julian Lee, Brad Hollingsworth, and Van Wallach. Photo by Robert Hansen.

look forward to increasing stability of the trees now being generated and the development of imaginative ways to use them."

When asked which of his many accomplishments he is most proud of, Richard paused for a moment and recalled a line conveyed by Ernest Williams regarding a manuscript that Richard had asked him to read, "Don't worry about whether or not it's right, the question is 'Is it useful?'" In this regard, Richard considers his studies of anoles and *Liolaemus* beneficial to the field.

"These are large and important groups that needed their systematic relationships resolved to serve as a context for other studies. I think my work with Darrel Frost and others on iguanian classification brought about long-overdue recognition of the diversity within this group. But I can't say that I have any feeling of pride about my work."

It is worth mentioning that *Anolis* and *Liolaemus* are the two largest clades of reptiles traditionally ranked as genera (at least under some taxonomies), currently with >360 and >200 species, respectively. Likewise, Richard's work on resolving the higher-level relationships within iguanian lizards (Etheridge and de Queiroz, 1988; Frost and Etheridge, 1989; Frost et al., 2001) has proven to be highly influential. Richard seems strangely attracted to the huge polytomies that most other researchers avoid. He considers his best work to be his dissertation (1959), "The relationships of the anoles (Reptilia: Sauria: Iguanidae): an interpretation based on skeletal morphology." Although some of it remains unpublished, his dissertation provided background material for two of Richard's most important papers on comparative skeletal morphology (Etheridge, 1965b, 1967), and still serves as the primary point of reference for systematics research on *Anolis* and closely related lizards. After being compelled to answer questions about his own accomplishments, Richard was quick to add, "I am immensely proud of the students with whom I have been associated, but it is their accomplishments I am proud of, not mine."

To most of his friends and colleagues Richard is known as a soft-spoken, humble, and generous person. On numerous occasions he has passed along volumes of unpublished data to a colleague or student when he learned that the person

was working on the same group or systematic problem. In 1998, Richard made a substantial donation of dry skeletons (mostly iguanian lizards) that he had prepared over the course of his career to the AMNH. He plans to deposit his field notes and a large collection of *Liolaemus* and *Phymaturus* (alcoholic and dry skeletons) in the MVZ.

In the field, Richard is best described as a Zen master: patient, measured, and calm in the face of adversity. During the austral summer of 1994–1995, at the age of 65, he led a group of herpetologists on several trips to collect *Liolaemus* lizards in northwestern Argentina, as recounted by Espinoza. In total, we collected about 35 species of *Liolaemus*, as well as other lizards, snakes, and frogs (and not fewer than 14 flat tires). One particularly hot day in Catamarca Province is noteworthy, as it captures the essence of Richard in the field. We were on our way to Puesto Río Blanco in the Salar de Pipanaco, the type locality of *L. salinicola*, which is an obligate sand-dweller that Richard needed to collect for one of his studies. As we drove the 10 km or so of dirt road to the site, the dust floated in through large holes in the truck's floorboards, forcing us to breathe through our cloth collecting bags. When we finally stopped we looked like powdered donuts—covered from head to toe with fine dust. We arrived at about 1500, and by then the wind was blowing sand into every orifice of our bodies. The sun was also beating down fiercely: air temperatures in the shade exceeded 45°C and ground temperatures topped 70°C! Without pause, our leader set off in search of his quarry. The ground was so hot that the few lizards remaining aboveground were climbing into the shrubs to escape the toe-burning heat. But our march continued because Richard wanted "just a couple more lizards." Within an hour our body temperatures had reached a level sufficient for spontaneous combustion. Worse, in our haste to start collecting, none of us had carried water into the field. After about another 0.5 h of sun-baked sandblasting without additional lizard sightings, we convinced Richard to return to the truck for a water break, assuring him that we could return once the air temperature had dropped to "just" 38°C. We trudged back to the truck, drank our fill, and sought shelter from the inferno. Yet the only cover was under thorny acacia and mesquite shrubs. Much to our further delight, these bushes were home to hundreds of biting flies. Hungry biting flies. To top it off, aggressive stinging ants patrolled the ground. We sat for an hour on the ground, hunkered down to avoid the thorny branches above, dripping with sweat, and slapping ourselves incessantly to avoid stings and exsanguination. Richard, on the other hand, had barely broken a sweat. He seemed to be hermetically sealed. As we sat around making our own gravy, we speculated that his skills in deep meditation (he has been a practitioner of Zen since the early 1970s) allowed him to defy the laws of water balance. In fact, after a quick drink, he alone went back out to look for lizards. And sure enough, he collected two more.

Outside of his profession, which for Richard seems to be more an avocation than a vocation, he enjoys traveling and being out in nature. He considers birdwatching a good excuse for doing both. His bird life list exceeds 2,200 species, although he only started keeping track about ten years ago. In recent years, he has traveled to Argentina, Australia, Borneo, Ecuador, Egypt, India, and Tanzania, and he has Madagascar in his sights for 2008. He frequently goes hiking and camping with friends in the southwestern U.S.

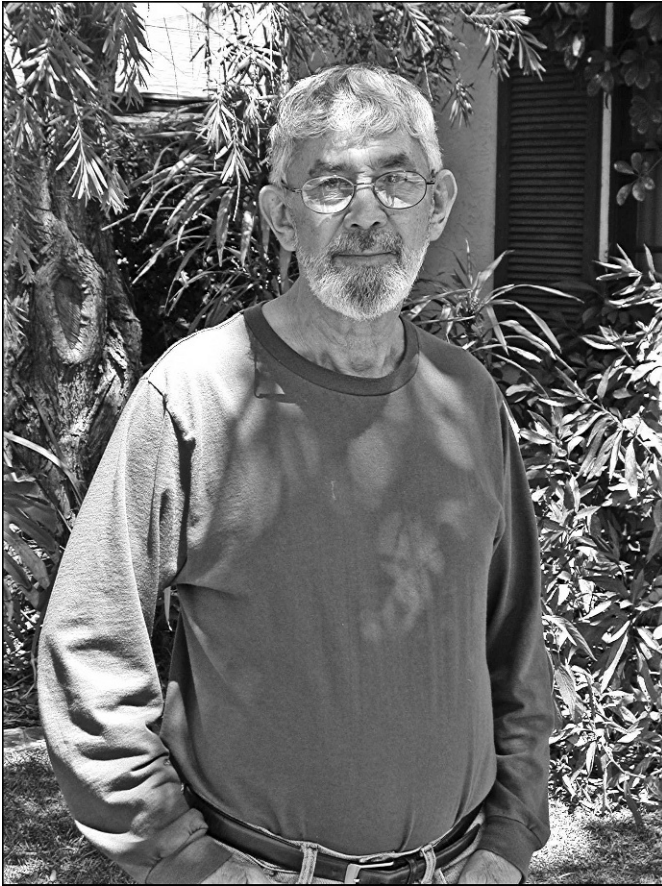


Fig. 4. Richard Etheridge in his backyard in San Diego, California (2003). Photo by Robert Espinoza.

When at home in San Diego, California (Fig. 4), Richard spends his time gardening (he has an impressive succulent collection, including both potted plants and a large hillside garden). He also enjoys reading science fiction and fantasy novels, and his love of all things chocolate cannot be overstated.

In closing, we would like to acknowledge a subtle but important contribution that Richard has made to the field of herpetology. As students, many of us were told that we should avoid referring to ourselves as herpetologists and instead don titles such as behavioral ecologist, comparative physiologist, evolutionary biologist, and the like. At some level this is sound advice, as there are considerably fewer jobs advertised for herpetologists than for “question-oriented” biologists. Of course, Richard never gave us such advice. Indeed, he considers the growing trend toward eliminating herpetology and other taxon-oriented courses from the curricula of many U.S. universities one of the most important challenges facing our field today. Although we do not undervalue the merits of question-based research, we share a concern with Richard and many of our colleagues that an appreciation for taxa is waning. After all, even “question-oriented” biologists are well served by having detailed knowledge of the taxa that they select for answering their questions. For this reason we believe that one of Richard’s greatest contributions to herpetology has been fostering in us a sense of pride in being herpetologists—a categorization many of us, like Richard, continue to embrace.

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