A TRIBUTE TO HENRY S. FITCH

This issue of *Reptiles & Amphibians* is devoted largely to the memory of Henry S. Fitch (HSF) who passed away on 8 September 2009, just short of his 100th birthday. Although we suspect that many of our readers are already well aware of Dr. Fitch's contributions, for those who may be relative newcomers to herpetology, we preface this tribute issue with some relevant background information (see also the "Profile" below and the remembrances beginning on p. 9).

As superintendent of the Natural History Reservation at the University of Kansas (now the Fitch Natural History Reservation), HSF accumulated more than 32,000 capture records of 18 species of snakes over a 50-year span of fieldwork from 1948 through 1997. Recaptures of marked individuals yielded information on growth, daily and seasonal movements, longevity, population density, and more. These data resulted in numerous publications providing many of the most detailed accounts of snake natural history that have ever been published or, for that matter, ever will be published. These include the classics *Autecology of the Copperhead* (1960) and *A Kansas Snake Community: Composition and Changes Over 50 Years* (1999). Dr. Fitch continued to conduct fieldwork in Kansas well into his 90s, especially with Timber Rattlesnakes. For these accomplishments, HSF is appropriately considered the "father" of snake ecology.

These feats alone would merit this tribute issue, but they represent only a fraction of Dr. Fitch's scientific contributions. His herpetological works also include long-term studies of several lizard species in California, Kansas, and the American Tropics. He spent considerable time in Mexico, El Salvador, Nicaragua, Costa Rica, Ecuador, and the Domincan Republic, where he studied the ecology and behavior of anoles (and also described several new species) and other small lizard species, and documented the commercial exploitation of iguanas (*Ctenosaura* and *Iguana*) for conservation purposes. Furthermore, he made major contributions to our knowledge of plant succession, spiders, birds, and mammals.

Biologists with the dedication, enthusiasm, energy, longevity, and breadth of knowledge of Henry Fitch are rare. Those of us who had the opportunity to collaborate with him, or just to have spent time with him in the field or at a professional meeting, consider ourselves among the fortunate. We are indeed pleased to dedicate this issue and portions of the next two issues of *Reptiles & Amphibians* as a tribute to the life and accomplishments of Dr. Henry Fitch.

The Editors of *Reptiles & Amphibians*

PROFILE

Henry S. Fitch[1]

Henry S. Fitch as told to Alice Fitch Echelle

I was born 25 December 1909 at the Fitch family home in Utica, New York, and two weeks later was named Henry Sheldon Fitch (after my grandfather, Henry Augustus Fitch). My father, Chester Fitch, graduated from Williams College in Massachusetts and briefly attended Harvard Medical School, preparing for a career as a medical doctor, but he abruptly switched directions in favor of an outdoor life as an agriculturist. My mother, Alice Ticknor Chenery Fitch, was from Belmont, a suburb of Boston, Massachusetts, where her family had lived since the 1600s. She had gone to finishing school, with training in music, poetry, and other cultural pursuits. In those days, young women rarely trained for a profession outside of the home. My mother enjoyed the outdoors, and it was quite an experience for her to move from the suburbs of Boston to fairly wild country in the west. As long as I can remember, she used to take long hikes, often by herself or with me and my siblings, Margaret, Ruth, and Chester, born, respectively, September 1908, December 1916, and March 1919.

When I was one year old, my parents moved from New York to southwestern Oregon where my father had bought a "ranch" of 116 acres, mainly a pear and apple orchard at the south end of the Rogue River Valley in the foothills of the Siskiyous, near the Oregon-California border. From our orchard to the south, there was scrub oak in the foothills and fir and pine in the mountains, rising more than 6,000 feet to the crest of the Siskiyous, and in my early years I ranged far and wide over the wild country and became interested in wildlife and especially reptiles. The common snakes in the vicinity of our orchard were the Gopher Snake, the Western Yellow-bellied Racer, and the Common Garter Snake; the one really common lizard was the Pacific Fence Lizard, *Sceloporus occidentalis*. We also had Western Skinks and alligator lizards on our land.

I attended a one-room school with grades one to eight, one teacher, and kids who were backwoods types. When I graduated and went to Medford High School, I found myself somewhat retarded in my academic qualifications, but after graduating from Medford, one of the larger high schools in the state, I was at least as well prepared as the average high school graduate. My zoological interests were innate and did not depend on any one person, but natural history was one of my father's many interests, and he encouraged my own interest by conversation and by having many books on the subject. I was fascinated by any kind of wild animal I saw and especially reptiles. I remember grabbing large bullsnakes, because they were common on the ranch. When I handled a bullsnake, I was enthralled and a little afraid, and often my hands would be bleeding from the bites. The real bonus was in seeing horrified adults scatter. It was quite a feeling of power for a five-year-old. I am sure it stimulated my interest in snakes. Feeling like a snake charmer, I could impress people and not quite understand why they were so afraid. We had few near neighbors. One of them, Earl Schuchard, was my buddy, but he didn't approve of my interest in snakes, and he once told me, "My Dad says that one of these times you will grab hold of the wrong kind of snake, and that'll be the end of you!"

I enrolled at the University of Oregon as a zoology major in 1926 when I was 16, but I did not excel as an undergraduate. I was disillusioned by the college courses that I had in biology and zoology, because the Zoology Department at the University of Oregon had a strong medical school orientation. Those who didn't make the grade to become doctors either had to change direction completely or teach biology. There was no professor in the department who had any interest in the native fauna or

[1] Originally published in *Copeia* 2000 (Historical Perspectives, p. 891), copyrighted material reprinted with permission of the American Society of Ichthyologists and Herpetologists (ASIH).

Postscript.[2]—Henry Fitch was interviewed by Alice Fitch Echelle, her husband Tony, and their children Tyson and Lena. The interview was conducted on 6 September 1998, the Fitch's 52nd wedding anniversary, at the family home on the Fitch Natural History Reservation, Lawrence, Kansas. Dr. Fitch has received many honors. In 1950, he received the George Mercer Award of the Ecological Society of America for the year's outstanding ecological paper, "Ecology of the California ground squirrel on grazing lands" (*American Midland Naturalist* 39:513–596). His publications span the period from 1933 to 1999 and are still in progress. In 1997, the American Society of Ichthyologists and Herpetologists established the Henry S. Fitch Award for Excellence in Herpetology, to be made annually by the society to a deserving herpetologist for field research. Dr. Fitch was the major advisor of 18 masters and 14 doctoral students. Several names are well known to herpetologists: John Legler, Russell Hall, Dwight Platt, Michael Plummer, Richard Seigel, Robert Webb, and Robert Henderson.

— Margaret M. Stewart, Historian

[2] This "postscript" was amended to this "perspective" when it was originally published in 2000.

who could identify a toad, a mouse, or a snake; thus, I had no stimulus to be a zoologist and no role model for a zoological career. Still, I persisted as a zoology major without any clear idea of my future profession. In fact I did, for a while, contemplate switching to geology as a major and took a number of courses in the Geology Department. As far as I was concerned, these courses were far more stimulating than any biology course I was able to find at the University of Oregon.

I knew that I wanted to be a biologist but had no concept of the career opportunities, which in those times were very limited compared with those available now. Professor Earl Packard, a paleontologist at the University of Oregon, knew my father and made geology field trips with summer classes to our part of the state. I took his course at the University of Oregon, and he strongly suggested that I go to the University of California for graduate work. When I first enrolled at U.C. Berkeley, I chose Joseph Grinnell, the director of the Museum of Vertebrate Zoology, as my graduate advisor. While still at the University of Oregon, I read the massive volumes on the reptiles of the Pacific Coast and Great Basin by John Van Denburgh, who was the herpetologist at the California Academy of Sciences. In his rather long species accounts, he quoted from publications of Grinnell, and especially those of Charles L. Camp, who had been a graduate student under Grinnell and who had written some papers that touched on natural history. Camp's main contribution to herpetology was his *Classification of the Lizards*, and his main interest was morphology. However, on one of the University of California field trips, he visited the Turtle Mountains of the Colorado Desert and wrote a paper on the desert lizards with quite a few behavioral notes and some taxonomy, and I was impressed by this. I planned to enroll under Camp for graduate study but was surprised and disappointed to find that Camp had become a paleontologist in the Geology Department and that he no longer worked with recent animals. I took two of Camp's courses in my first year at Berkeley: The Vertebrate Skeleton and Elementary Vertebrate Paleontology. I enjoyed both courses and found them profitable.

Graduate school was much more interesting and exciting than my undergraduate work at the University of Oregon. When I came to the Museum of Vertebrate Zoology (MVZ) in 1931, it had just moved from an overcrowded and inadequate building on the north side of the campus into the brand-new Life Sciences Building. The entire west end of the building was occupied by the museum with its large vertebrate collection. There were graduate students doing fascinating field studies of different kinds of animals, some of which were totally new to me, and I began meeting people with basic interests overlapping my own. My first day in the museum I met a student who was just finishing a master's degree studying Mountain Beavers, primitive aplodontid rodents that I had never heard of before. He had some in captivity, and I was fascinated by them. Alden Miller had just gotten his doctoral degree the year I came. During my first semester at MVZ, Grinnell met with me and three other new students in weekly orientation sessions; he presented each of us with Miller's published thesis (fresh off the press) on California Shrikes and suggested that we use this as a model for a detailed study of a vertebrate. We were all impressed and inspired by Miller's study. Grinnell himself was primarily an ornithologist and secondarily a mammalogist, but he knew very little about reptiles. He had published natural history notes on reptiles, but when I began studying alligator lizards, he could not have told me how to distinguish sex in these lizards.

Grinnell, up to this stage in his career, had a somewhat negative attitude toward graduate students and was reluctant to spend time on them, because he was very active in research on birds and mammals and always had field projects in progress. Over the years, however, his interest in graduate students grew stronger. I did not seem very promising at first, I am sure, but he sensed that I was highly interested in animals in general, and particularly in reptiles, and was quite tolerant of my shortcomings in other directions.

I always have admired some of Grinnell's methods with regard to graduate students. When I first talked with him, I supposed that he would have suggestions for my graduate research. Instead, he asked me what I was interested in and suggested that I list as many possible projects as I could think of and come back to see him in a few days. The next time I talked with him, he suggested that I cut this list down to the three that seemed the best of the lot, taking into consideration for each project practicality, predicted time to completion, potential scientific value, questions to be answered, travel and funding requirements, and prospects for successful completion. Following Grinnell's suggestions, I narrowed the possibilities by several stages and finally settled on alligator lizards for my master's research.

Among those who determined the course of my career, I should mention especially Professor E. Raymond Hall, who brought me to the University of Kansas (KU) to take charge of the Natural History Reservation (NHR) and to teach ecology. I first met him when he was a young assistant professor and curator of mammalogy at MVZ. He was one of Grinnell's early students and was so highly thought of that he worked into a permanent position in the museum. After my first academic year of graduate study at MVZ, I enrolled in a summer course taught by Hall. At the time, he was studying the mammals of Nevada, and he published a tome on this work a few years later. There were about eight or nine of us in the summer course, and the fieldwork consisted mainly of trapping, especially snap-trapping, small mammals and preparing them as study skins. We also collected other vertebrates, including a few birds, and for me, especially, reptiles and some amphibians. This was my first experience with the high desert herpetofauna of the Great Basin. The lizards and snakes were mostly new to me, and during the course of this field trip, we visited many localities, covering much of the state. Sampling by live-trapping in the high mountains and on the desert flats was a great learning experience for all of us in the class.

There were, of course, many other interesting people I got to know while in graduate school. One person who turned out to be my good friend during the course of graduate work was Don Hatfield, who got a master's degree at MVZ. He had a gift for writing, became involved in Hollywood movies, and evidently had a career there that was not mainly biological. Also, there was Ward Russell, Hall's field assistant, who devised the dermestid beetle method of cleaning vertebrate skeletons.

I joined ASIH (American Society of Ichthyologists and Herpetologists) in the early 1930s. In those days, getting to the national meeting could involve as much as two weeks' absence from the work place, and with my limited funding, the cost was prohibitive until the western division of the society met in Berkeley in June 1934. At this meeting, I first met Carl Hubbs and his wife and children. They were on a collecting trip covering many of the western

states. Hubbs was interested to know that I was working on garter snakes, and he gave me some localities for *Thamnophis elegans vagrans* that were farther east than the range was known to extend at that time.

George Myers was the ichthyologist at Stanford University, and I knew him from several visits to the museum there. Myers was a hot-shot ichthyologist who got his Ph.D. at Stanford and revitalized ichthyology there after Jordan passed on. Myers was friendly when I first met him. At Stanford, Victor Twitty was studying western newts, and found that "*Triturus torosus*" was a composite of three distinct species that overlapped in some areas but were really very different in color, habitat, and habits. The differences were quite sharply defined in the larvae, too. Two of the species were limited to California, but the third was much more widespread, and that was the one we had in Oregon. I found that Twitty's *Triturus* (now *Taricha*) *similans* had been named long before, as *T. granulosus*, and I published a note on this in 1938. After the note had been submitted, I proudly mentioned my discovery to Myers when he was visiting at MVZ, but he told me, "I'm working on *Triturus*," and he seemed very resentful that I had infringed on his territory. After that, he was consistently hostile. When my dissertation was published he wrote a scathing review. There was nothing good in it at all, according to him, and he even criticized my using the German word *Artenkreis* for the garter snakes (in those years before World War II, many people had a bias against anything Germanic). Subsequently, Carl Hubbs wrote a review for *American Naturalist* that was more positive and, in my opinion, more insightful. There was mutual antipathy between Hubbs and Myers, representing Michigan and Stanford, the main ichthyological centers in the country at that time.

I never met David Starr Jordan, but my brother- in-law, Gaeton Sturdevant, took a course in ichthyology from Jordan at Stanford in the late '20s or early '30s. Earl Herald and Robert Rush Miller came to MVZ for experience working with Grinnell my last year there (1937).

From 1934 on, I was employed as a teaching assistant in Grinnell's courses and taught Economic Vertebrate Zoology in the fall semesters. It was a course for forestry majors, and it emphasized animals such as beavers and woodpeckers that are important in forest ecology. In the spring semesters, I assisted in Zoology 113, a course in vertebrate natural history for zoology majors. This was a course in birds and mammals, with a smattering of herps, that was taught mainly by Grinnell, with Hall taking the mammal part of it. It was the best course I had ever taken in my student career. Grinnell gave excellent lectures. I assisted in it over a series of years and learned more each time.

My summers were spent in the field. Several times after the summer of 1931, when I worked in Nevada with Hall, I went on museum field trips as a member of an MVZ team. On these trips, the objective was to collect as complete a sample as possible of the vertebrate fauna of a specific locality or area. We spent part of a summer collecting in the vicinity of Lehman Cave in Nevada to sample the modern fauna as a basis for comparison with the Pleistocene cave deposits. Every summer I was also busy with my field research in several western states, but mostly in California, Oregon, and Nevada, with much less time in Utah and Wyoming. When I was collecting garter snakes for my dissertation, I often collected pocket gophers for Grinnell. He needed them from very specific localities and paid me by the gopher, not very much per gopher, but enough to finance my own fieldwork.

After the conferring of my doctorate in May 1937, I worked in the museum preparing my dissertation for publication in the University of California Publications in Zoology. During November 1937, I lived with Jean M. Linsdale and family at the newly dedicated Hastings Natural History Reservation in Monterey County, California, and was due to come back and spend more time in the spring of 1938. I was the first of many Linsdale field assistants at the Hastings Reservation. It became routine for MVZ graduate students to spend time with Linsdale at Hastings, benefiting from his guidance in taking field notes. But there were complaints from some that Linsdale's style of biting sarcasm often traumatized students. Linsdale's career ended tragically with deteriorating health, loss of memory and eyesight, and premature death (in the 1960s). I did not return to work with Linsdale as planned because I had qualified for a government job and was hired by the Bureau of Biological Survey (which later became the U.S. Fish and Wildlife Service). The bureau had started out as a research organization with a small cadre of leading naturalists under C. Hart Merriam. By the time I was hired, the survey had expanded and changed direction, with pest control as a major priority.

The bureau needed a field biologist to collaborate with the Forest Service at the Forest and Range Experiment Station's San Joaquin Experimental Range in the Sierra foothills south of Yosemite National Park. I went to work on this job early in 1938, studying the ecology of range rodents. In order of their importance on cattle range, these rodents were the California Ground Squirrel, the San Joaquin Pocket Gopher, and the Tulare Kangaroo Rat. Also the Audubon Cottontail was of some importance. In addition, there were several kinds of native rats and mice, including *Neotoma fuscipes, Peromyscus boylei*, and *Peromyscus truei*, that were common in the area, not to mention *Microtus californicus*, which was rather localized but abundant in the few places that were moist enough for it. Ground squirrels were the focus of my fieldwork. I had been familiar with ground squirrels in Oregon since early childhood and had shot and trapped many of them. At the San Joaquin Range, they were superficially the same but much wilier and harder to trap than their counterparts in southern Oregon. They were exceptionally alert and suspicious of any strange object, including steel traps placed in burrow entrances, and generally avoided traps by circling or jumping. In understanding this difference, I became aware that during the snake season, from early March through November, the ground squirrels were at constant risk of being bitten by rattlesnakes — their one most important natural enemy. These populations that had been exposed to rattlesnake predation for millions of years were behaviorally quite different from ground squirrels from more northern areas where rattlesnakes were either absent or were much more recent and less abundant. I had been interested in snakes from my start there, and more and more I became involved with rattlesnakes as predators on the local rodents. As a result, I started marking and studying local populations of the Pacific Rattlesnake.

Jesse Nelson, superintendent at the San Joaquin Range, disapproved of a natural history approach and thought that I should concentrate instead on so-called pest control. It got to the point where Nelson would assign a fieldworker the chore of timing my day in the field — how much time was spent on snakes, especially when we had a crew out. Soon the data seemed to indicate to my employers that I was spending 36 hours a day (my own time and that of crew members) on snakes rather than on rodent control, and I was ordered to stop the snake work. After that, I rarely brought live snakes to the headquarters. But whenever I caught one in the field, I would process it there, "bootlegging" this part of my research.

I was bitten twice by rattlesnakes in the course of my work at the Experimental Range. The bites were not life threatening but were traumatic experiences, and as a response, I changed my catching and handling tactics. For the first bite (spring of 1938), I went to a doctor's office and had a shot of serum. I was allergic to the shot, broke out in a rash, and suffered almost as much from the treatment as from the bite. I was bitten when I dropped the snake into a bag; the snake could strike faster than I could withdraw my hand. The second bite (spring of 1940) happened almost the same way. It was a first-year snake recently emerged from hibernation, and its shot of venom seemed even more potent than that of the larger snake that had bitten me in 1938. I had changed hands, from the time of my first bite, and never again grasped a snake with my right hand, which was left free to write. Since the second bite, I have never let go of a poisonous snake without first holding down the head, having learned the hard way. Besides a shot of serum, accepted treatment for a bite at that time was to cut at the site of the bite and then apply suction. For the first bite, I had to get back to my car and then drive back to headquarters. The car was about one-third mile distant, and I jogged back to it and drove to headquarters, and my friend Harold Biswell drove me to Madera for treatment. The second bite happened back at the headquarters. I dropped the snake, and it bit me on the finger, and reflexively, I jerked back and slung it 20 feet, which may

have caused more venom to be injected. I was working with Ben Glading, and he drove me in to Madera.

I was drafted in the spring of 1941, on four days' notice, and I think partly or maybe entirely because of my age (32), I was put in the Medical Corps and was assigned to a station hospital. During that summer, I was sent to William Beaumont General Hospital in El Paso, Texas, and had a three-month course of training as an army pharmacist. Soon after my return to Camp San Luis Obispo, California, in September 1941, I was released from the army on the grounds that I was too old to serve, being over 26, and this was when the one-year term of draftees (except for those 26 or older) was extended indefinitely. The term-extension triggered draftee resentment and rioting in army camps across the country, but I was glad to be out of the army and went back to my old job at the San Joaquin Range.

My relief was short-lived because I was recalled to active military duty soon after Pearl Harbor was bombed. I was at Camp San Luis Obispo for awhile, then assigned to a hospital at Sawtelle, California, subsequently assigned to the 348th Station Hospital at Camp Beale, California, and finally was shipped overseas in late 1942 on the Victory ship, KOKOMO. The ship carried about 5,000 of us across the stormy North Atlantic in quarters that were crowded and dirty and that reeked of sick odors because of lack of adequate ventilation. We were part of a large convoy and had destroyer escort. The hold of the ship was partitioned into many compartments that could be used as air space to keep the ship afloat after possible torpedo strikes, and the unannounced and frequent testing of the electronically operated sliding doors that sealed off our compartments was a grim and persistent reminder of the expendability of the individual in times of war. My unit was sent first to Cardiff, Wales, and after a period of months there, we were transferred to Llandudno on the northern coast of Wales, later to near Nottingham and to two or three other places in England. After D-Day, we were at Prestwick, Scotland, a first stop for flying casualties, and we were often routed out of bed during the middle of the night to carry the wounded into our hospital or transfer them onto another plane or train. Finally, after the invasion, we were sent to France and eventually to occupied Germany at Bremerhaven where I spent a spring, summer, and fall. By that time, the war was won; there was a point system for releasing veterans, and I got out of the army sooner than some of my colleagues on the basis of my advanced age. I was sent back to Camp Beale near Marysville, California, where I was released, and after a night of hitchhiking, I arrived back home at Medford, Oregon, in November 1945 after almost five years in the army.

Army life during the war was not very conducive to pursuit of zoological interests. When we had time off, I often watched birds. Along the coast near Llandudno, there were large colonies of nesting seabirds on a long rocky peninsula, and it was a great place for bird-watching. Earlier, when I was sent to Beaumont General Hospital, I drove my car to El Paso from San Luis Obispo. I had weekends free and explored far and wide. Because I had never before done fieldwork in that part of the country, there were many kinds of herps that were new to me, and I sent my collections back to MVZ.

While stationed at various places in England, I was able to make weekend trips to London, where I frequented the zoo, the British Museum, and many bookstores. At that time, London was being bombed intermittently. The infamous "buzz bombs" were a hazard, and I remember hearing many explosions, but none was ever very close to where I happened to be.

As soon as I got home to Medford, Oregon, after the war, I wrote to the Fish and Wildlife Service indicating that I was ready to return to my job. The U.S. President had promised that all GIs would be entitled to their former jobs upon being released, but I got a discouraging reply from the Fish and Wildlife Service saying that my old job no longer existed. They gave me the name and address of the director of River Basin Surveys. These surveys, initiated by the Soil Conservation Service, were inventorying vertebrates of economic importance in the central states. I talked with a person who had recently returned from the war and gone to work for them, and he was very encouraging. But I was considerably irked because I was not being allowed to return to my former job as had been promised, so I wrote a letter of complaint to the Fish and Wildlife Service. I told them that I was not at all interested in working on River Basin Surveys in a part of the country that was unfamiliar to me, and that I was disappointed that the government was not fulfilling its responsibility after having promised draftees that their jobs would be waiting for them. It seemed to me that the government, especially, should live up to its promise. In the letter, I mentioned that I was not applying for the River Basin Survey, but instead I was returning to the San Joaquin Experimental Range (SJER) on my own to salvage what I could of my research there. I don't know what became of that letter, but it must have caused some stir. After about three weeks, I received a reply: they had "found" some funds for salary and would be glad to have me go back to the SJER and finish up my projects there. I returned to the SJER, spent all of 1946 there and also the spring of 1947, dividing my time between fieldwork and writing. On 6 September 1946, I married Virginia Ruby Preston, whom I had met at a party soon after returning home from the war. We were allowed to live in a little house near the SJER headquarters. I completed a series of papers for publication, and production was in high gear. But dissension developed between my bosses in the Fish and Wildlife Service and the Forest Service, resulting in my transfer to Louisiana.

In May 1947, Virginia and I drove our own car and a government car from the San Joaquin Range to Alexandria, Louisiana, and lived in a housing project at nearby Leesville. During our year in Louisiana, I worked in the National Forest, 20–40 miles from Leesville, studying quail, mourning doves, armadillos, cotton rats, and deer. My work in Louisiana would have continued except that I was invited by E. Raymond Hall to apply for the position of ecologist at the University of Kansas (KU). Hall had been the mammalogist at MVZ at Berkeley, but when he lost out to Alden Miller for

Henry Fitch in Army Pharmacy School, William Beaumont General Hospital, El Paso, Texas, August 1941. The uniform was a World War I cavalry suit because that was all that was available at the camp at that time.

the directorship, he returned to his alma mater as director of the University of Kansas Natural History Museum and as chairman of the (then) Zoology Department. He knew me well from the trip to Nevada and from our association at MVZ. I had also worked for him on his major studies of American weasels. He was aware of my work with Linsdale at the Hastings Reservation and had me in mind for the job on the newly created reservation at the University of Kansas. This land had been owned since 1910 by the University of Kansas, and Hall had persuaded the chancellor that its best use might be as a natural history reservation. I came to KU and gave a seminar on my work at SJER and got the job. This was a very strategic time to start in university teaching because the GI Bill of Rights had been passed, and universities were full of returning veterans whose higher education was being financed by the government. At KU, at least half the courses in the department were being taught by graduate students. I started my teaching career with the title of instructor, as was customary then, in the fall of 1948. I was promoted to assistant professor after my first year, and finally to full professor in 1958. From July 1948 through February 1950, we lived on campus in the Sunnyside Housing Project near where Allen Field House stands now, and on 1 March 1950 moved into the new residence on the reservation.

I was brought to KU to be superintendent of the reservation and to teach ecology. Up to this point, KU did not have an ecologist. I think Professor Worthy Horr taught a course in plant ecology, and Mr. McNair had taught animal ecology a few years previously but had since deceased. Ecology was just beginning to come into its own; I had never had a course in ecology myself. I taught it during fall semesters, and for the first few years, I had large classes of about 30–35 students. In 1968, when we returned from sabbatical in Costa Rica, my teaching duties were switched from ecology to natural history, because KU was acquiring several ecologists of different types. To me, it has been much more satisfying to teach natural history than ecology.

As a mammalogist, Hall was anxious to have some mammal research done on the reservation. I was mammal-oriented after my work at the San Joaquin Range and started some large-scale studies of small mammals with live-trapping and marking, and that was how, for years, I spent a major part of my time. Also I studied lizards, including Five-lined Skinks and Great Plains Skinks, now almost gone because of habitat changes, but at earlier stages of succession, they were abundant and conspicuous. After several seasons, I developed a live-trap for catching snakes, and put out longer and longer trap lines for the snakes that came to hibernate at hilltop rock ledges. In 1957, I learned how to trap them in the fields, where they disperse in summer, by putting up drift fences, and this was labor intensive; a substantial portion of my fieldwork here on the reservation has consisted of live-trapping snakes.

Every part of the reservation's square mile has changed, to the extent that it is hardly recognizable as the same area I first saw more than 50 years ago. From almost any standpoint, it would look entirely changed, but the wooded part has changed relatively little compared to the originally open areas. The woodlands have changed through the dying out of the large American Elms that were the dominant trees. These were replaced by ash and a variety of other tree species with the climax species constantly gaining and spreading to places where they formerly had been absent. Osage orange, honey locust, and mulberry are pioneer invaders of the land that was formerly cultivated or that was overgrazed pasture, and on these former open areas, dense weeds, brush, shrubs, and seral trees became prominent as stages toward a climax forest.

Every animal species has changed in distribution and abundance, and in general, the grassland species, especially those of shortgrass, have disappeared. It has been a long time since I have found a bullsnake on the reservation, but in the first few years, they were common in the pasture areas. Tallgrass species like the Yellowbellied Racer and the Prairie Kingsnake are still here, but they are becoming much more scarce. Even some forest species, notably the Timber Rattlesnake, have disappeared completely from our square mile. Although its habitat is forest, it requires open sunny places to bask, and the continuous canopy that has developed has eliminated basking places. Despite considerable anthropogenic mortality, most of the Timber Rattlers, perhaps 20, caught in the last few years have been from the KU-owned Nelson Tract adjoining the reservation to the north or from farms immediately adjacent to the Nelson Tract. I remember only one record in recent years from the reservation, and that was near the headquarters. That one adult male Timber Rattler must have wandered far from his home range.

I had always wanted to do fieldwork with reptiles in the tropics and finally was able to do so at age 55 when, in 1965, I took the Organization for Tropical Studies course in Costa Rica. During the course, we covered most of the country and became familiar with its fauna, and I laid the groundwork for later study of local lizard populations. In 1967–1968, on sabbatical from KU, I returned to Costa Rica on a National Science Foundation grant with a truck and camper and my wife, daughter Alice (20), and son Chester (14). Our older son John was at that time based in Hawaii and working for the Smithsonian Institution on their Pacific Bird Project. With the help of my team, Alice and Chester, I established transects (north–south and east–west) spanning Costa Rica with 14 study areas with individually marked populations of 15 lizard species. Six of these species were represented at two or more of the study areas revealing the effects on reproductive cycles of contrasting climates, from rain forest and cloud forest to xeric scrub. Each area was revisited at six-week intervals in 1968, and sampling of these same areas was continued through the early 1970s.

Another major project was a comparative study of anoles, about 50 species, from Mexico to Ecuador, mostly on the mainland, but including several in the Dominican Republic. Habitat, seasonal schedule of activity, breeding season, dewlap displays, and sexual size difference were found to be closely related.

A third project was a natural history and conservation study of Green Iguanas (*Iguana iguana*) and ctenosaurs (*Ctenosaura similis*) in Nicaragua and other Central American countries. In many Latin American countries, these large lizards constitute an important food source, but overhunting and habitat loss have eliminated them or caused drastic reduction through much of the range. Appropriate conservation measures have the potential to restore populations of these hardy and prolific lizards, with a tremendous economic benefit to the local people. With my former student, Bob Henderson of the Milwaukee Public Museum, I began fieldwork in 1976; more than 1,000 ctenosaurs and 343 Green Iguanas were examined, measured, and weighed, mostly in the markets of Nicaraguan towns and villages. At that time, Nicaragua was still controlled by the Somoza dictatorship. Our study was sponsored by the Banco Central of Managua. The International Fund for Animal Welfare sponsored several more trips to Nicaragua in the 1980s. During these visits, I worked with the Government of Reconstruction (Sandinista) and their conservation organization, Instituto Nicaraguense de Recursos Naturales y del Ambiente (IRENA), and a Five-Year Plan for iguana conservation and restoration was instituted.

The three major thrusts of my tropical research, described above, overlapped in time and study areas. The fieldwork spanned 20 years with at least one trip annually to the countries involved, including Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Ecuador, and the Dominican Republic.

I retired in 1980 and am enjoying life while continuing some of my former activities, the ones that I most relish, and that includes trapping snakes. In the 1980s and 1990s, I was involved with rattlesnake roundups in Oklahoma (Western Diamondbacks) and Kansas (Prairie Rattlers). Like most herpetologists and conservationists, I am opposed to the roundups, but they do offer great opportunities to learn more about the ecology of the species and how to conserve them.

When I retired, I was told by the KU administrators that Virginia and I could continue to live in the residence here on the Natural History Reservation as long as that was to the advantage of the university. We try to be useful, and anyone who has any interest in natural history or ecology is encouraged to visit and use the area.

My wife Virginia had no biological background except for a high school course in biology, but she has always had an avid interest in natural history. Snake hunts were prominent during our courtship, and she read up on herps

VADA SNIDER

Henry Fitch on the Fitch Natural History Reservation holding a Red-sided Gartersnake (*Thamnophis sirtalis parietalis*); 23 May 1991.

and became well versed in herpetology. During our early years on the reservation, Virginia often accompanied me in the field and helped in many ways, including making plant surveys and assembling spider collections. While tending traplines for both small mammals and snakes, Virginia recorded the field data, making my handling of live animals much easier and more efficient. She also typed most of my manuscripts, and we have always read proofs together, even on our wedding night. Virginia has not done as much fieldwork with me in recent years because of health problems and susceptibility to poison ivy, chiggers, and ticks. However, she still helps me in preparing live animal displays for visiting school children and in numerous other ways.

Our three children, John (the oldest), Alice, and Chester (the youngest), all enjoyed growing up on the reservation and helped me in various ways. John was a special help in policing the area during hunting seasons. Alice, even from the time when she was in junior high school, was a great help to me in recording field data on thousands of snakes and other animals. Chester was especially helpful in obtaining glass lizards when I was studying them in the 1970s. He organized his friends to help with the hunting, paying a small fee for each lizard caught, while still making a bit of a profit for himself. John now teaches environmental courses at Florida Gulf Coast University. He lives in Naples, Florida. Alice is a research associate in the Zoology Department at Oklahoma State University. She and her husband Tony Echelle have worked together as a research team for the past 30 years. Chester runs a rental management service in Lawrence, and he and his wife Deanna live about a half-mile from the reservation.

In retrospect, my main professional accomplishments have involved long-term field studies that usually entailed individual marking of live animals in natural populations (lizards, snakes, rodents) and collecting demographical data. These field studies have extended over 64 years: *Sceloporus occidentalis* at Berkeley, California, and at my former home in Jackson County, southwestern Oregon, mid-1930s; snakes (especially *Crotalus viridis* and *Pituophis catenifer*) and rodents (especially *Otospermophilus beecheyi* and *Dipodomys ordii*), late 1930s and early 1940s, at the San Joaquin Experimental Range, Madera County, California; snakes (18 species) and rodents (especially *Microtus ochrogaster* and *Peromyscus leucopus*) at the University of Kansas Natural History Reservation, 1948–1999; lizards of 15 species at 14 localities of contrasting habitats on north–south and east–west transects in Costa Rica, 1967–1973.

My field studies, as outlined above, have demonstrated that mark-recapture procedures, extending over periods of years, are useful for understanding species' demographies and demonstrating that erroneous ecological impressions may result from a short-term study or one confined to a specific locality. (Journals of my fieldwork are slated to be deposited at the Kansas Ecological Reserves Office where they will be accessible to future workers.)

My 1940 publication on the "Ordinoides Artenkreis" of Western Garter Snakes is now long forgotten, and taxonomy has undergone drastic changes, but I consider that paper to be by far the most scholarly and important of all my studies. From fieldwork over much of the western United States and examination of all available museum specimens, I was able to show that the morphological characters upon which classification was based were highly adaptive and were closely linked with behavior, habits, and habitat.

Economic constraints have prevented me from attending ASIH meetings regularly or frequently, but I have attended them whenever feasible over the past 64 years. In recent years, I have enjoyed making joint camping trips to some of the meetings with Tony and Alice. Attending the meetings has always been an exhilarating experience for me, because ASIH members have always been leaders in the field. Over the years, the cost of being a herpetologist has escalated, and I strongly recommend that ASIH do what it can to counter this trend, for example, by holding down costs of registration fees and housing at the annual meetings. It would be well always to hold meetings where camping facilities are available.

I have seen great changes in herpetology and herpetologists over the years. In the 1920s and 1930s, there were only a few individuals who were active in herp research in the United States. The field was dominated by those such as Stejneger, Barbour, Ruthven, and Klauber. Studies were almost entirely in systematics. Information on life histories and ecology accumulated mainly in the form of notes and was anecdotal. A common type of publication was an annotated county list. In the 1930s, when I first attended ASIH meetings, studies were oriented to morphology and systematics, almost exclusively. The major change has been a shift of interest to behavior, demography, and ecology. Fieldwork in the early 1900s consisted mostly of collecting animals that could be preserved for later study in the lab. Now, herpetology is thriving as never before, and the increased interest is very gratifying. A phenomenon of the present generation is the female herpetologist; there are now more women than men in some herpetology classes, and a high proportion of research publications have female authors. When I was growing up, I never saw a woman react to the sight of a live herp other than with horror and revulsion. Of course, there were a few pioneers even in the early 1900s like Doris Cochran of the National Museum and Helen T. Gaige at the Museum of Zoology, University of Michigan.

My father encouraged my early interest in reptiles and helped me build a large, outdoor screen cage in which I kept many different kinds which coexisted more or less harmoniously. These were mostly local species, but I obtained the name of a Texas dealer, the "Snake King," and purchased a variety of kinds from him, including Indigo Snake, Berlandier's Tortoise, Collared Lizard, and ctenosaur. Also, I made contact with a German herpetologist, Werner Schröder, and by mail sent him several local kinds in exchange for European species. Since then, herpetoculture has become a very popular hobby. Some species are best known from observations in zoos or private collections. This interest is commendable, but there is danger that rare and endangered species will be adversely affected by overzealous and illegal collecting.

For as long as I can remember, interest in reptiles and amphibians has been a dominant influence in my life, and other interests have seemed relatively minor. Finding and capturing herps has often involved strenuous exercise, and I always liked that. Distance running was one of my habits. At the University of Oregon in my sophomore and junior years, I was on the crosscountry team and ran the mile and two-mile in track. I especially enjoyed tennis, since we had a tennis court at the ranch where I grew up. In my high school years, I routinely played tennis with my father and in later years played with my sister, Ruth. Also, I enjoyed scrub soccer and basketball and would often assemble neighborhood kids, all younger than I, with my younger siblings, for games with three to six or seven participating. In 1923 (or '24?) when there was a local tennis tournament, I won the junior championship (under age 16) of Medford. As an adult in Kansas, I continued the gaming tradition, with intrafamily teams of my children, their friends, graduate students, and eventually my grandchildren. In more recent years, ping pong has partly replaced the more rigorous games.