BANISTERIA

A JOURNAL DEVOTED TO THE NATURAL HISTORY OF VIRGINIA



Richard Lawrence Hoffman (1927-2012)

Richard Hoffman, the foremost authority on both the world's milliped fauna and Virginia's diverse invertebrate fauna, was a cofounder, life member, and honorary councilor of the Virginia Natural History Society. He also served as an original coeditor and more recently as an associate editor of *Banisteria*. During the past two decades he amassed a large, regionally significant collection of invertebrates and an internationally important collection of millipeds at the Virginia Museum of Natural History. An obituary, bibliography, and seventeen of the final papers authored or coauthored by this outstanding scientist, teacher, and mentor, who was widely regarded as one of Virginia's greatest naturalists, comprise this memorial issue of *Banisteria*.

Obituary: Richard Lawrence Hoffman (1927-2012)



Richard Hoffman working in his laboratory at the Virginia Museum of Natural History, Martinsville, Virginia, ca. August 2007. Photo by Judy Winston.

Virginia recently lost one of its most valuable human resources. Richard Lawrence Hoffman (age 84) died on June 10, 2012, from complications following open heart surgery. His breadth of knowledge and contributions to science on animals ranging from millipeds to insects to worms to amphibians and reptiles, especially in Virginia, will never be matched. He was one of the last old-time naturalists. Many details of his life are reviewed in the biographies by Roble (2009) and Mitchell (2009), from which some of the information presented here is derived.

Richard Hoffman was born on September 25, 1927, in Clifton Forge and spent his youth exploring the countryside where he developed a strong love of natural history. He almost finished his undergraduate degree in biology in 1950 at the University of Virginia but was unable to complete a freshman math class. He was accepted to graduate school at Cornell University in 1951 where his major professor and the dean accepted his 29 publications as being equivalent to passing the math course (Roble, 2009). He completed his Master's degree in Entomology in 1959 but worked at the Radford Arsenal as a chemist when he was not at Cornell or in the field. Richard obtained his Ph.D. in

Zoology in 1960 from Virginia Tech where he wrote his dissertation on the taxonomy of branchiobdellid worms (crayfish commensals), describing a dozen new species in the process (Hoffman, 1963). In the same year, he accepted a teaching position at Radford College (now Radford University) where he taught numerous courses over a 28-year period, including general biology, general zoology, freshwater biology, zoology, invertebrate entomology, herpetology, mammalogy, biogeography, and the history of science. Richard served as editor of The Radford Review, the school's scholarly journal, from 1964 to 1970. In 1981, he was profiled in The Chronicle of Higher Education as an example of a highly productive researcher at a small teaching university (McDonald, 1981). Richard retired from Radford University in 1988 and joined the newly established Virginia Museum of Natural History as Curator of Recent Invertebrates in early 1989 at the age of 61. Richard retired from state service on April 1, 2009, after a period of 48 years, but only in a formal sense because he still came in to the museum six to seven days a week to work on the collection, various projects, and his publications. He is survived by a brother, Hank Hoffman; a daughter, Marian Evans

(husband Rich); two sons, Lawrence Hoffman (wife Kristi) and Carl Hoffman (former wife Reba); grandchildren, Brittany Evans, Brett Evans, Rachel Hoffman, Mary Hoffman, and Ella Hoffman; and a nephew, Robert Hoffman.

Without question, Richard Hoffman was the most knowledgeable person on the natural history of Virginia and the southern Appalachians. His original interest in natural history in his teen years was on herpetology. His scientific contributions began in 1944 at the age of 16 with the publication of several papers on amphibians and reptiles of the Clifton Forge area (Hoffman 1944a, b), including the first Virginia record of the Coal Skink (Plestiodon anthracinus). During the latter half of that year he also wrote 27 weekly nature columns for the local newspaper concerning various animals and conservation (Roble, 2009; see Essays section of this issue, pages 93-108, for the full text of these writings). Richard initially wanted to pursue a career in herpetology but he was discouraged by several prominent herpetologists at the time who told him that there were already enough taxonomists in that field (Mitchell, 2009). During his freshman year at the University of Virginia, Richard was again discouraged from pursuing a career as a taxonomist because his professors were not interested in taxonomy; in response, he briefly changed his major to geology the next year. However, shortly thereafter, the most significant event in shaping Richard's future career occurred when Horton H. Hobbs, Jr., a crayfish taxonomist, was hired as a new faculty member. Working under Hobbs, Richard learned thoroughness, organization, taxonomy, and how to be a good scientist. To the end of his life he considered Hobbs his only true mentor. Richard initially studied crayfish with Hobbs, but eventually they mutually agreed that Richard should find his "own" group to study. He quickly realized that there was plenty of room for taxonomic contributions on many groups of invertebrates and ultimately chose millipeds, a poorly known group (of which he was formerly terrified to encounter in the field; Mitchell, 2009) with potentially high diversity, at least in part because they occur under the same rocks and logs as the salamanders and snakes he had pursued in his youth. Although Richard became a world-renowned milliped taxonomist, he never lost his love of the amphibians and reptiles, especially salamanders, of Virginia.

Richard Hoffman was the world's foremost authority on the classification of millipeds, a distinction he held for at least half a century. The first of his 380 papers (through 2012) on millipeds was published in 1947 when he was 20 years old. During his lifetime, Richard described more than 400 species (or subspecies) and more than 200 genera of millipeds. He

also co-authored the descriptions of one genus and two species of centipeds. Two families, six genera, 19 species, and two subspecies of millipeds, as well as two centipeds, were named in his honor. Richard was actively working on dozens of additional projects and papers concerning milliped taxonomy (as well as still more on Virginia natural history) at the time of his death. His systematic and revisionary research resulted in numerous contributions to milliped classification, such as erecting new tribes and subfamilies and other higher taxa, as well as nomenclatorial changes (Sierwald, 2009). Shear (2009) prepared a succinct summary of Richard's contributions to the field of myriapodology (the study of millipeds and centipeds). In addition to his voluminous papers, Richard produced important monographs on two large families of predominantly African millipeds (Hoffman, 1990a, 2005), a large, detailed summary of the history and (then) current status of milliped classification (much of it derived from his own research and hypotheses about taxonomic relationships; Hoffman, 1979), and two checklists of the North and Middle American milliped fauna (Chamberlin & Hoffman, 1958; Hoffman, 1999b). He also wrote the milliped chapters for the classic books on soil organisms (Hoffman, 1990b) and fossil arthropods (Hoffman, 1969c). Richard milliped the entries for several encyclopedias, the last of which was published this year (Hoffman, 2012b). From 1978 to 2007, he edited Myriapodologica, an occasional periodical of his own creation that published more than 100 articles (half authored by Richard) pertaining to milliped taxonomy during its existence.

Richard Hoffman mentored several other leading myriapodologists, including Bill Shear (Hampden-Sydney College and current VNHS secretary-treasurer) and Rowland Shelley (North Carolina State Museum of Natural Sciences), among others. Shelley was quoted shortly after Richard's death as equating the impact of his loss on the study of milliped taxonomy to that of Einstein's passing on physics, saying "He knew more than anybody. He was the grand master" (Rupert, 2012). Shelley (pers. comm.; Shelley, in press) also likened Richard's passing to an extinction, comparing it to the loss of a species or the unwritten language and culture of a remote primitive tribe, because of his unparalleled knowledge of not only millipeds, but many other organisms (especially invertebrates). Richard had an encyclopedic knowledge of the scientific literature on millipeds (and other groups) and was the first and still only person capable of identifying virtually any milliped in the world on sight to at least the tribal level. Shelley concluded that Richard's breadth of knowledge and level of expertise will never be matched.

Richard Hoffman published 73 papers on various aspects of the conservation, distribution, and natural history of amphibians and reptiles, almost all of which were based on observations in Virginia (Mitchell, 2009). He recognized the two distinctive calls of the gray treefrog complex (Hyla chrysoscelis and H. versicolor) and outlined their distribution pattern in Virginia two decades before they were recognized as separate species (Hoffman, 1946; Johnson 1966). He was the first to note the expansion of the range of H. chrysoscelis westward onto the Blue Ridge escarpment in Floyd County (Hoffman, 1996). He described two subspecies that were later considered invalid (Six-lined Racerunner [Aspidoscelis sexlineata], Seal Salamander [Desmognathus monticola]) (Hoffman 1951, 1957). Most of his herpetological contributions consisted of distribution records and included checklists for Alleghany County (Hoffman, 1945), Fort Pickett (Hoffman, 1953), Burkes Garden in Tazewell County (Hoffman & Kleinpeter 1948a; Hoffman, 1955, 1983), and Mount Rogers (Hoffman & Kleinpeter, 1948b). He later summarized all of his observations on the herps of Alleghany County in a four-part series (Hoffman, 1985a, b, 1986, 1987a) published in *Catesbeiana*, the journal of the Virginia Herpetological Society, for which he had suggested the name. Richard was a member of that society for most years from its founding in 1958 until his death. His recent papers on herps include one on anuran distribution records in Greensville County (Hoffman & Mitchell, 1996) and a review of his general observations of changes in amphibian populations in the Clifton Forge area over many decades (Hoffman, 1992). His latest and perhaps final herpetological contribution (Hoffman 2012d, this issue) concerns biogeographical issues in Virginia, including a challenge to other herpetologists to document new state records.

In his late teens and early 20s, Richard boldly corresponded with leading scientists of the time, especially herpetologists and botanists. He spent time in the field with well-known botanists of that era such as Lloyd Carr and Arthur Massey, and later Robert Kral. He eventually served as the major professor of Doug Ogle, who became a well-respected botanist in his own right. One of Richard's earliest papers concerned the distribution of red spruce in Virginia (Hoffman, 1950). While he was still an undergraduate at the University of Virginia, Richard wrote a book review for a national journal of the newly published Mammals of Virginia (Hoffman, 1948). Charles O. Handley, Jr., the lead author, was a contemporary and eventual long-time acquaintance of Richard's (they were born three years apart) and another of the last old-time naturalists in Virginia. Handley was widely recognized as the

foremost authority on the state's mammal fauna for the duration of his life and also became a leading mammalogist of his generation (Pagels, 2000).

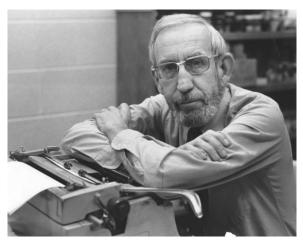
Richard Hoffman was the leading expert on the invertebrate fauna of Virginia and one of the most knowledgeable authorities on the biota of the southern Appalachian Mountains. He was especially interested in millipeds, spiders, beetles, and true bugs, but was also well-versed in many other groups, including mollusks, crayfish, worms, harvestmen, and centipeds. He also coauthored five papers on Virginia's caddisfly fauna (e.g., Flint et al., 2004, 2008, 2009). Among beetles, Richard was especially interested in ground beetles (Carabidae) and long-horned beetles (Cerambycidae). He published nine papers on carabids. In recent years, he had started several papers on both groups and had plans to write still more papers on other families of Virginia beetles. With Perry Holt, his doctoral advisor, Richard served as coeditor of the classic volume on the biogeography of southern Appalachian invertebrates (Holt et al., 1969). He also contributed an important paper on the origin and affinities of the region's milliped fauna (Hoffman, 1969b).

With his longtime friend and colleague Michael Kosztarab of the entomology department at Virginia Tech, Richard cofounded the series entitled The Insects of Virginia. It was originally published by Virginia Tech and later by the Virginia Museum of Natural History. A total of 15 fascicles appeared between 1969 and 2006, including five written by Richard. His first contribution to the series was a classic summary of Virginia's biogeography (Hoffman, 1969a). His later fascicles concerned various families of true bugs (Heteroptera). At the time of his death, Richard was actively working on an annotated checklist of the more than 300 species of plant bugs (Miridae) of Virginia with Thomas Henry of the National Museum of Natural History, Smithsonian Institution. He had also begun to prepare a similar list of the more than 500 species of ground beetles that inhabit the state.

In 1987, Richard wrote an important conservation-related paper entitled "Local Sites of Special Concern in Virginia" in which he identified various areas of the state that either harbored rare and endangered species, or he suspected had the potential to do so and were in need of inventory surveys (Hoffman 1987b). Richard had planned to write an addendum for *Banisteria* but no such manuscript was prepared. Several of the areas discussed in his 1987 paper have since been protected as nature preserves by state agencies and private conservation groups, including Buffalo Mountain and Dragon Run Swamp. Others were already owned by natural resource agencies (e.g., U.S. Forest Service), such as Laurel Fork, Potts Mountain bog, and Breaks



Richard Hoffman, Radford College, early-mid 1960s (photo courtesy of Gene Hyde, Radford University Archives).



Richard Hoffman in his office at Radford University, fall 1981 (photo by Larry Davis, courtesy of Radford University Archives).



Attendees at the 1st "North American" myriapod conference, Radford College, 1976; from left to right: Rowland Shelley, Andrew Weaver, William Shear, and Richard Hoffman (photo provided by Richard Hoffman).



Richard Hoffman peeling bark in search of insects, ca. 2001. Photo by Melody Cartwright, Virginia Museum of Natural History.



Richard Hoffman "teaching" a soil ecology class at Wintergreen Resort, Nelson County, Virginia, 2007 (photo courtesy of Doug Coleman, The Wintergreen Nature Foundation).



Richard Hoffman with sons Lawrence and Carl at his 80th birthday symposium, Virginia Museum of Natural History, Martinsville, Virginia, September 2007. Photo by Melody Cartwright, VMNH.

Interstate Park. Richard also coauthored an important, oft-cited summary of the physiography, climate, and natural communities of Virginia (Woodward & Hoffman, 1991).

Richard was a strong proponent for the conservation of biodiversity his entire life, initially expressing his concerns in the final two nature columns he wrote as a teenager (see pages 107-108 of this issue). He was a Life Member and generous supporter of The Nature Conservancy and collaborated with state agencies (Department of Conservation and Recreation and Department of Game and Inland Fisheries) for many years, serving as chair of the DGIF invertebrate taxa committee and editor of the arthropod chapter in the comprehensive book on the state's rare biota (Hoffman, 1991). During the last decade of his life, Richard tried unsuccessfully to enlist several state agencies and private conservation groups to protect a small seepage wetland he discovered in southeastern Franklin County that harbors several rare and uncommon insects and an unusually diverse copepod fauna that includes eight undescribed species, four of which are currently known nowhere else in the world (Reid, 2009).

Richard had a great love for Virginia, including its geology, topography, scenery, seasons, and especially the biota. He could have pursued more lucrative jobs, and perhaps more prestige, at larger universities or museums in other states but was too strongly attached to his native state to consider leaving it. Most of his field work was conducted in Virginia, with occasional excursions to the mountains of North Carolina and Tennessee, and rarely to other nearby states. Despite his vast expertise on the milliped fauna of Africa, he never visited that continent, relying on others (especially Kim Howell in Tanzania; e.g., Hoffman & Howell, 2012) to provide specimens from there and other exotic places. His foreign travel was largely focused on studying historically important milliped collections in European museums. During a 1995 trip to Costa Rica he provided training to two biodiversity inventory programs. Among his favorite places in Virginia were Burkes Garden (Tazewell County), the Mount Rogers-Whitetop Mountain area (the state's two highest peaks), Buffalo Mountain (Floyd County), Greensville County (especially Fontaine Swamp), Pinnacles of Dan (Dan River Gorge, Patrick County), and Breaks Interstate Park (Dickenson County). His popular articles on the first two areas are reprinted in this issue (see pages 84-

During the last quarter century of Richard's life, in his role as a museum curator, his vocation was truly his avocation. He often had limited curatorial help, so frequently worked alone and eagerly sorted, pinned, and labeled thousands of specimens before identifying them. The motivation behind his long hours of work in the laboratory each day was the chance to find a "gold nugget" (Richard's term) - a rare, uncommon or undescribed species or a good geographic record (new state record, range extension, disjunct locality, etc.) – or minimally, a species new to the museum's collection. On many occasions he excitedly informed SMR via phone or email of a new identification of interest (several papers in this issue are derived, in part, from information contained in email messages of this nature). More than a few times Richard prefaced weekend email messages with remarks such as "Too good to wait until Monday in case I die tomorrow." Ironically, Richard rarely placed his own determination labels on the many thousands of specimens that he identified at the Virginia Museum of Natural History, at least in part because he considered the species labels on unit trays (pinned insects) or in jars and vials (alcohol-preserved specimens) to be sufficient.

Richard was a lifelong learner, always eager to tackle new groups of organisms, particularly insects, especially families of beetles and true bugs with which he was not previously familiar. One of the papers in this issue (see pages 49-53) is the direct result of his recent efforts to curate the click beetle collection. Besides his role as Curator of Recent Invertebrates, Richard was also responsible for the museum's publications for several years and, just prior to his retirement, he briefly served as the Director of Research and Collections. He worked diligently for many months (perhaps even several years) to get the reprint edition of Covell's (2005) moth field guide published and personally packaged many boxes for shipping to customers. Later, he spent many weeks curating the museum's expanding collection of moths, a group of insects he had vowed many times never to work with because of his dislike for their scales and, especially, hairy caterpillars.

Richard had a strong devotion to curation, extending right up to the last week of his life, though at the expense of writing more papers on milliped taxonomy. He never had a goal to describe a certain number (e.g., 500 or 1,000) of species during his career. Although nearly half of Virginia's approximately 200 millipeds, the highest total for any state, are still unnamed, Richard readily admitted that he was not motivated to describe most of them in his lifetime. He once wrote "One soon finds that [milliped research] is hardly compatible with compulsive collection-building. It is far more fun to pin neat insects and key them out than to write boring text about body details of new millipeds." (Hoffman, 1994). His philosophy on the need to describe every new milliped found in Virginia is also reflected in these comments taken from the essay reprinted on pages 90-91 of this issue "... this number increases on an annual basis. Under such conditions, the thrill of discovery wanes and describing the accumulation becomes a chore. But occasionally, a capture is made that transcends the tedium of 'another one to be named'." If a species especially piqued his interest, Richard could prepare a formal description of it in a day or two. Noting his occasional ambivalence pertaining to milliped research as opposed to Virginia insects, Richard cited a letter (Hoffman, 1994) from a foreign colleague who encouraged him to work on millipeds, writing "... you are like the last rainforests; when you disappear a world databank will be lost – but the invertebrates of Virginia will still be alive."

Besides millipeds and centipeds, Richard described 16 species and one genus of other invertebrates, including a spider, harvestman (also a new genus), leech, nematode, and a dozen branchiobdellid worms. Despite this broad range of taxonomic expertise, he generously allowed others to describe species he had personally collected, recognized as new to science, and was fully capable of describing himself. For example, in 1983 Richard discovered Sigmoria whiteheadi, a milliped still known only from the type locality along the Blue Ridge Parkway. One of only two millipeds in Virginia with legal status (state threatened), it was described by his colleague Rowland Shelley in the context of a generic revision (Shelley, 1986). Likewise, the recently described centiped Strigamia hoffmani is known only from Richard's collections made at Bent Mountain (1985) and Burkes Garden (2001) in western Virginia (Pereira, 2009). In yet another case, Richard patiently waited 44 years for the description (Barr, 2009) of a ground beetle to appear in print; ultimately, it was named for him (Maronetus hoffmani).

Taxonomists other than myriapodologists named 14 species and one genus of invertebrates in Richard's honor, including nine insects (three beetles and one each of springtails, diplurans, mayflies, stoneflies, caddisflies, and true bugs), three crustaceans (amphipod, isopod, and ostracod), two worms (nematode and branchiobdellid) and a genus of mites. Also, one salamander was named in his honor - the Valley and Ridge Salamander (Plethodon hoffmani) by his long-time friend and occasional field companion Richard Highton (1971). Hoffman had collected the type specimen near his home town of Clifton Forge in 1944. Highton (2009) described how the description of the Peaks of Otter Salamander (Plethodon hubrichti) on which he and Richard were about to publish was underhandedly thwarted by Gordon Thurow (1957). In total, nearly 50 taxa were named in Richard's honor, a remarkably large number of patronyms for one scientist.

Richard Hoffman was a lifelong advocate for the

study of natural history. He strongly supported the creation of the Virginia Museum of Natural History in the mid-late 1980s. He was also perhaps the best "ambassador" for the Virginia Natural History Society, not only by cofounding (with JCM) and publishing many papers in Banisteria, but by actively attempting to recruit new members among professional colleagues (both within and outside of Virginia), amateur naturalists, students, and librarians. He was passionate about Virginia's natural history in particular, and enthusiastic and encouraging whenever anyone showed interest in a facet of the state's biota and its natural history. Likewise, though ultimately to no avail during the past several decades, he was regularly seeking prospective authors for The Insects of Virginia series. He believed that everyone, including amateur naturalists, should publish more of their observations and discoveries, including Virginia records in Banisteria. He frequently referred to the analogy of an unplanted seed, meaning that good intentions to publish one's observations and findings were not the same as actually doing so and sharing them with the rest of the world. In his own words "Unpublished knowledge is like buried treasure" (Hairston, 2000).

Richard had an insatiable thirst for knowledge about the natural world, but despite his vast expertise, he knew his limits and wasn't hesitant to say "I don't know." He frequently stressed that there is still much to learn about the biota of Virginia, especially the invertebrates. For many such groups, he often noted that we have barely scratched the surface of what there is to learn, including taking the first step of gathering baseline survey information to determine which species inhabit the state and where. Richard was truly a "Master Naturalist" and eagerly shared his knowledge with both professional colleagues and amateur naturalists. He regularly gave talks or led hikes for The Wintergreen Nature Foundation, The Nature Conservancy, Virginia Museum of Natural History, and the Mount Rogers naturalist rally. He occasionally helped train foreign biologists in field inventory methods at the Smithsonian Institution's facility at Front Royal, Virginia.

Richard was well versed in the history of biological exploration in Virginia and the southern Appalachians. His plenary address at the Appalachian biogeography symposium held at Virginia Tech in 1995 only partially demonstrates his grasp of the subject (Hoffman, 1999a). Richard prepared several manuscripts for the "Historical Contributions" section of *Banisteria* and had plans to submit even more such papers in the future. His closing remarks at the Virginia Natural History Society's 2009 symposium on the history of natural history in Virginia will appear in the next issue of this journal (Hoffman, *in press*).

A symposium was held in honor of Richard Hoffman's 80th birthday in September 2007 at the Virginia Museum of Natural History and resulted in a beautiful edited book that contains 32 papers by 41 authors on four continents (Roble & Mitchell, 2009). The diversity of papers in the *Festschrift* reflects both Richard's broad interests and the respect he had among his peers worldwide. The book's title acknowledges that Richard was a giant in two fields of study, namely millipeds of the world and Virginia's natural history. In an unusual action for a *Festschrift* volume, we coaxed the honoree into preparing a paper. Richard chose to summarize his thoughts on the history and future of myriapodology (Hoffman, 2009).

Richard Hoffman was the true southern gentleman scientist. He was a generous and caring individual who loved Virginia and its natural wealth. He was well known for his zeal to educate anyone who cared to listen. He was an eloquent speaker. Some of his presentations were compiled the day before or on the spot. Among his many teaching and scientific research awards are the Virginia Lifetime Achievement Award from the Virginia Museum of Natural History, the Edward H. Abbuehl Award for Environmental Education from the Friends of the Blue Ridge Parkway, and the Lifetime Achievement Award from the Virginia Herpetological Society. He will be long remembered for his education of many students and colleagues, his scientific contributions to state, regional, and global biodiversity, his love and knowledge of Virginia, his generosity, and his quiet, unassuming but passionate approach to life. JCM last saw Richard in July 2011 when he visited him in Martinsville. Richard was excited to show him an insect that he had found in a swimming pool when he took a break from the heat one day (see Hoffman 2012a). It was easy to tell that he had plans for many publications, some of which had been in preparation for years. Unfortunately, some of these will never be finished. Richard had a long and productive life, succeeded in living his dream of being a classical taxonomist, and almost got his wish (Rupert, 2012) of dying while working at his microscope. A memorial service for Richard Hoffman was held at the Virginia Museum of Natural History on July 21, 2012. A generous bequest from Richard will help establish an endowment at the museum to further support curation of the Recent Invertebrates collection. The Virginia Natural History Society recently contributed to a matching fund for that purpose.

In closing, Richard's own eloquent words (Hoffman, 2012c), contained in a letter written in remembrance of an esteemed milliped taxonomist (*Graf* Attems) of an earlier generation, are worth repeating in the context of his own career and accomplishments:

"In every aspect of learning or accomplishment, there are those whose experience and knowledge endows them with singular authority. Standing like the occasional peaks which soar above others of a mountain system, such persons are recognized and respected for the magnitude of their contributions, whether of word or deed. But accomplishment alone means little if it has not been transmuted into a tangible legacy – the judgment of posterity will be weighted by the degree to which the fruits of accomplishment are shared, and knowledge in particular must be incrementally passed from one generation to another ... every scientist is forever in the debt of those in whose steps he follows and in whose shadow he learns and grows in wisdom. Perhaps the greatest single legacy bestowed on me by Graf Attems has been the importance of remembering the needs of the new and inexperienced, and so to pass on one's knowledge in a form that will ease and facilitate their own careers and contributions in research."

We have lost one of the most important pillars in Virginia's natural history. Much of the advancement of natural history in the Commonwealth will be based on the foundations that Richard Hoffman provided. We can follow the example of his life and career to inspire us all to learn more about the natural world, to share that knowledge with others through writing and teaching, and to support efforts to protect our native biota for future generations. Richard Hoffman will long be remembered as a champion for the study and conservation of our natural heritage.

Literature Cited

Barr, T. C., Jr. 2009. New and rare species of *Maronetus* (Coleoptera: Carabidae: Cychrini) from the Appalachian Valley and Cumberland Plateau. Pp. 313-316 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication Number 16, Martinsville, VA.

Chamberlin, R. V., & R. L. Hoffman. 1958. Checklist of the millipeds of North America. Bulletin of the United States National Museum 212: 1-236.

Covell, C. V., Jr. 2005. A Field Guide to Moths of Eastern North America. Virginia Museum of Natural History Special Publication 12. 496 pp.

Flint, O. S., Jr., R. L. Hoffman, & C. R. Parker. 2004.

- An annotated list of the caddisflies (Trichoptera) of Virginia: Part I. Introduction and families of Annulipalpia and Spicipalpia. Banisteria 24: 23-46.
- Flint, O. S., Jr., R. L. Hoffman, & C. R. Parker. 2008. An annotated list of the caddisflies (Trichoptera) of Virginia: Part II. Families of Integripalpia. Banisteria 31: 3-23.
- Flint, O. S., Jr., R. L. Hoffman, & C. R. Parker. 2009. An annotated list of the caddisflies (Trichoptera) of Virginia: Part III. Emendations and biogeography. Banisteria 34: 3-16.
- Hairston, D. 2000. Museum scientist is the ... Millipede man of Martinsville. Martinsville Bulletin, April 2, pp. 1C, 5C. [reprinted as Appendix 4 in Roble & Mitchell, 2009]
- Highton, R. 1971. Distributional interactions among eastern North American salamanders of the genus *Plethodon*. Pp. 139-188 *in* P. C. Holt (ed.), The Distributional History of the Biota of the Southern Appalachians. Part III: Vertebrates. Research Division Monograph 4, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Highton, R. 2009. The discovery of *Plethodon hoffmani* and *Plethodon hubrichti* and why Richard L. Hoffman became a myriapodologist. Pp. 55-57 in S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication No. 16, Martinsville, VA.
- Hoffman, R. L. 1944a. *Eumeces anthracinus* (Baird) in Virginia. Proceedings of the Biological Society of Washington 57: 123-124.
- Hoffman, R. L. 1944b. Notes on *Cnemidophorus* sexlineatus in Virginia. Proceedings of the Biological Society of Washington 57: 124-125.
- Hoffman, R. L. 1945. Notes on the herpetological fauna of Alleghany County, Virginia. Herpetologica 2: 199-205.
- Hoffman, R. L. 1946. The voice of *Hyla versicolor* in Virginia. Herpetologica 3: 141-142.
- Hoffman, R. L. 1948. Review of "Wild Mammals of Virginia" by C. O. Handley, Jr., & C. P. Patton. American Midland Naturalist 39: 255-256.

- Hoffman, R. L. 1950. Records of *Picea* in Virginia. Castanea 15: 55-58.
- Hoffman, R. L. 1951. A new subspecies of salamander from Virginia. Journal of the Elisha Mitchell Scientific Society 67: 249-253.
- Hoffman, R. L. 1953. Interesting herpesian records from Camp Pickett, Virginia. Herpetologica 8: 171-174.
- Hoffman, R. L. 1955. Two additions to the amphibian fauna of Burkes Garden, Virginia. American Midland Naturalist 53: 256.
- Hoffman, R. L. 1957. A new subspecies of the teiid lizard *Cnemidophorus sexlineatus* (Linnaeus) from the eastern United States. Journal of the Washington Academy of Science 47: 351-356.
- Hoffman, R. L. 1963. A revision of the North American annelid worms of the genus *Cambarincola* (Oligochaeta: Branchiobdellidae). Proceedings of the United States National Museum 114(3470): 271-371.
- Hoffman, R. L. 1969a. The biotic regions of Virginia. Pp. 23-62 *in* The Insects of Virginia, No. 1. Research Division Bulletin 48, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- Hoffman, R. L. 1969b. The origin and affinities of the Southern Appalachian diplopod fauna. Pp. 221-246 *in* P. C. Holt, R. L. Hoffman, & C. W. Hart, Jr. (eds.), The Distributional History of the Biota of the Southern Appalachians. Part I: Invertebrates. Research Division Monograph 1, Virginia Polytechnic Institute, Blacksburg, VA.
- Hoffman, R. L. 1969c. Myriapoda, exclusive of Insecta. Pp. 572-606 *in* R. C. Moore (ed.), Treatise on Invertebrate Paleontology, Part R, Arthropoda, 4. Geological Society of America, Inc., and The University of Kansas.
- Hoffman, R. L. 1979. Classification of the Diplopoda. Muséum d'Historie Naturelle, Geneva, Switzerland. 237 pp.
- Hoffman, R. L. 1983. Salamanders from Burke's Garden, Virginia. Catesbeiana 3(1): 3-12.
- Hoffman, R. L. 1985a. The herpetofauna of Alleghany County, Virginia. Catesbeiana 5(1): 3-12.
- Hoffman, R. L. 1985b. The herpetofauna of Alleghany

- County, Virginia, Part 2. Class Amphibia. Catesbeiana 5(2): 3-13.
- Hoffman, R. L. 1986. The herpetofauna of Alleghany County, Virginia, Part 3. Class Reptilia. Catesbeiana 6(1): 4-10.
- Hoffman, R. L. 1987a. The herpetofauna of Alleghany County, Virginia, Part 4. Biogeographic inferences. Catesbeiana 7(1): 5-14.
- Hoffman, R. L. 1987b. Local sites of special concern in Virginia. Virginia Journal of Science 38: 399-408.
- Hoffman, R. L. 1990a. Myriapoda 4. Polydesmida: Oxydesmidae. Das Tierreich 107. 515 pp.
- Hoffman, R. L. 1990b. Chapter 26. Diplopoda. Pp. 835-860 *in* D. L. Dindal (ed.), Soil Biology Guide. John Wiley & Sons, New York.
- Hoffman, R. L. 1991. Arthropods. Pp. 173-249 *in* K. Terwilliger (coordinator), Virginia's Endangered Species: Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, VA.
- Hoffman, R. L. 1992. Anuran population declines in western Virginia. Catesbeiana 12: 34-35.
- Hoffman, R. L. 1994. Department of Recent Invertebrates. Research and Collection Notes 1(10): 3-5.
- Hoffman, R. L. 1996. *Hyla chrysoscelis* also crosses the Blue Ridge: *sic juvat transcendere montes*. Catesbeiana 16: 3-8.
- Hoffman, R. L. 1999a. Appalachian biogeography: a personal retrospection. Pp. xi-xiv *in* R. P. Eckerlin (ed.), Proceedings of the Appalachian Biogeography Symposium. Virginia Museum of Natural History Special Publication 7.
- Hoffman, R. L. 1999b. Checklist of the millipeds of North and Middle America. Virginia Museum of Natural History Special Publication 8: 1-584.
- Hoffman, R. L. 2005. Monograph of the Gomphodesmidae, a Family of African Polydesmoid Millipeds. Naturhistorisches Museum, Vienna, Austria. 537 pp.
- Hoffman, R. L. 2009. Two and a half centuries of diploped taxonomy (1758-2008): retrospect and prospect. Pp. 101-108 *in* S. M. Roble & J. C. Mitchell

- (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication 16.
- Hoffman, R. L. 2012a. *Stachyocnemus apicalis* is rediscovered in Virginia (Heteroptera: Alydidae). Banisteria 39: 78.
- Hoffman, R. L. 2012b. Diplopoda. Pp. 594-595 *in* McGraw-Hill Encyclopedia of Science and Technology. 11th Edition, Volume 5. McGraw-Hill, New York.
- Hoffman, R. L. 2012c. Carl August Theodor Michael Attems: an appreciation. Pp. 7-8 *in* V. Stagl. Richard L. Hoffman (1927-2012) Obituary. Annalen des Naturhistorischen Museums in Wien B 114: 5-8.
- Hoffman, R. L. 2012d. Spot-problem solving: a new approach to Virginia herpetology for the next millennium. Banisteria 40: 24-31.
- Hoffman, R. L. *in press*. Nature, natural history, and naturalists in Virginia since 1927: a personal evaluation. Banisteria 41.
- Hoffman, R. L., & K. M. Howell. 2012. A new genus of odontopygid millipeds from Tanzania (Diplopoda: Spirostreptida: Odontopygidae). Journal of East African Natural History 101: 67-72.
- Hoffman, R. L., & H. I. Kleinpeter. 1948a. Amphibians from Burkes Garden, Virginia. American Midland Naturalist 39: 602-607.
- Hoffman, R. L., & H. I. Kleinpeter. 1948b. A collection of salamanders from Mount Rogers, Virginia. Journal of the Washington Academy of Science 38: 106-108.
- Hoffman, R. L., & J. C. Mitchell. 1996. Records of anurans from Greensville County, Virginia. Banisteria 8: 29-36.
- Holt, P. C., R. L. Hoffman, & C. W. Hart, Jr. (eds.). 1969. The Distributional History of the Biota of the Southern Appalachians. Part I: Invertebrates. Research Division Monograph 1, Virginia Polytechnic Institute, Blacksburg, VA. 295 pp.
- Johnson, C. 1966. Species recognition in the *Hyla versicolor* complex. Texas Journal of Science 18: 361-

364.

McDonald, K. 1981. What has up to 752 feet and could prove that continents drift? The Chronicle of Higher Education, September 30, pp. 5-6. [reprinted as Appendix 2 in Roble & Mitchell, 2009]

Mitchell, J. C. 2009. Richard L. Hoffman's contributions to herpetology. Pp. 45-54 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication 16.

Pagels, J. F. 2000. Charles Overton Handley, Jr.: a remembrance. Banisteria 16: 51-54.

Pereira, L. A. 2009. A new dwarf species of the genus *Strigamia* Gray, 1843 from the southern Appalachian Mountains of western Virginia (Chilopoda: Geophilomorpha: Linotaeniidae). Pp. 209-222 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication Number 16, Martinsville, VA.

Reid, J. W. 2009. Copepod crustacean diversity in Virginia. Pp. 277-285 in S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication Number 16, Martinsville, VA.

Roble, S. M. 2009. Richard Lawrence Hoffman: a biography and review of his contributions to natural history, with particular reference to the fauna of Virginia. Pp. 3-44 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication Number 16, Martinsville, VA.

Roble, S. M., & J. C. Mitchell (eds.). 2009. A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication 16. 458 pp.

Rupert, E. 2012. Scientist was expert on millipedes, insects. The Roanoke Times, June 14, p. 9.

Shear, W. A. 2009. The myriapodological work of Richard L. Hoffman. Pp. 109-112 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication Number 16, Martinsville, VA.

Shelley, R. M. 1986. A reconsideration of the milliped genus *Sigmoria*, with a revision of *Deltotaria* and an analysis of the genera in the tribe Aphelorini (Polydesmida: Xystodesmidae). Memoirs of the American Entomological Society 35: 1-223.

Shelley, R. M. *in press*. Richard Lawrence Hoffman (1927-2012): A tribute to a friend, colleague, teacher, mentor, and Grand Master Extraordinaire of diplopodology. Bulletin du Centre International de Myriapodologie 46.

Sierwald, P. 2009. Contributions to myriapod taxonomy: the milliped and centiped genera and species described by Dr. Richard Lawrence Hoffman. Pp. 113-147 *in* S. M. Roble & J. C. Mitchell (eds.), A Lifetime of Contributions to Myriapodology and the Natural History of Virginia: A Festschrift in Honor of Richard L. Hoffman's 80th Birthday. Virginia Museum of Natural History Special Publication 16.

Thurow, G. R. 1957. A new *Plethodon* from Virginia. Herpetologica 13: 59-66.

Woodward, S. L., & R. L. Hoffman. 1991. The nature of Virginia. Pp. 23-48 *in* K. Terwilliger (coordinator), Virginia's Endangered Species: Proceedings of a Symposium. McDonald and Woodward Publishing Company, Blacksburg, VA.

Steven M. Roble Virginia Department of Conservation and Recreation Division of Natural Heritage 217 Governor Street Richmond, Virginia 23219

Joseph C. Mitchell Mitchell Ecological Research Service, LLC P.O. Box 2520 High Springs, Florida 32655