VIRGINIA MUSEUM OF NATURAL HISTORY
Board of Trustees Research and Collections Committee
Saturday, November 14, 2026
9 a.m.

A G E N D A

- Call to order
- Roll call: Dr. Carole Nash, Dr. Tom Benzing, Dr. Melany Clark, Dr. David Furth, Katherine McGuire
- Approval of minutes from the Aug.15, 2026 and Sept. 15, 2026 meetings of the Research and Collections Committee
- Approval of acquisitions from July-Sept. 2026 (action item)
- Recommendation to full board regarding changes to live animals policy
- Recommendation to full board of Dr. Paul Sattler, Dr. Kevin Bezy, Dr. Ben Kligman, Dr. Keiko Meshida, and Jeff Carpenter as Research Associates
- Recommendation to full board that the board ask the VMNH Foundation to examine current rates of overhead for grants
- Other business
- Adjourn

The mission of the Virginia Museum of Natural History:

To interpret Virginia's natural heritage within a global context in ways that are relevant to all citizens of the Commonwealth.

Virginia Museum of
NATURAL HISTORY
IN ASSOCIATION WITH THE
SMITHSONIAN INSTITUTION

VIRGINIA MUSEUM OF NATURAL HISTORY BOARD OF TRUSTEES
MINUTES OF THE RESEARCH AND COLLECTIONS COMMITTEE
Aug 15, 2026, 9 A.M.
Virginia Museum of Natural History, Room 237 Conference Room A

Present at the meeting were Dr. Tom Benzing, Dr. Joe Keiper, Dr. Hayden Bassett, Dr. Jackson Roberts, Dr. Collin VanBuren, Jonathan Martin, Christine May, Elizabeth Carter Bailey, Ambria Wood, and Dr. Melinda VanDevelder. Committee members Dr. David Furth and Katherine McGuire attended via Zoom. Committee members Dr. Carole Nash and Dr. Melany Clark were absent.

Dr. Tom Benzing called the meeting to order. Lacking a quorum, Benzing said that the committee would not be able to vote on any items and the meeting would instead be an informational session. The attendees then introduced themselves to each other.

Dr. Tom Benzing asked if anyone could speak to the proposed changes to the museum's live animal policy that were listed on the board agenda. Dr. Joe Keiper said that Administrator of Science Ben Williams would be the one to speak on the topic but he was not able to attend due to a tree blocking his driveway. Keiper added that the policy changes would be reintroduced at the next quarterly meeting.

Dr. Tom Benzing said that the committee also recommends Research Associates for approval. While five Research Associates were on the agenda, these would also need to be tabled for a future meeting. Dr. Joe Keiper proposed that soon, a special online-only Research and Collections Committee meeting be scheduled which would allow an online quorum.

Dr. Jackson Roberts, the new VMNH Assistant Curator of Herpetology, introduced himself to the committee.

Dr. Tom Benzing said that he had just attended the Facilities Committee meeting and that work is continuing at the museum's Douglas Avenue facility to make it appropriate for collections storage.

Dr. Hayden Bassett mentioned that for the past month, his department has been doing an archaeological survey on the Smith River and they are currently working on a "corduroy road" located in Stanleytown. This was the original wagon ford across the

Smith River and is a submerged road made of logs and would prevent wagons from getting stuck in the mud. The Virginia Department of Historic Resources and the Virginia Department of Transportation have been working with Bassett and his crew on this site. Most of these corduroy roads do not survive, Bassett said, but this one had spent the last 200 or so years buried under eight feet of silt and was only recently exposed due to stormwater runoff.

Dr. Tom Benzing adjourned the meeting.

Virginia Museum of
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IN ASSOCIATION WITH THE
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VIRGINIA MUSEUM OF NATURAL HISTORY BOARD OF TRUSTEES
MINUTES OF THE RESEARCH AND COLLECTIONS COMMITTEE
Sept. 15, 2026, 1 P.M.
Online Zoom meeting

Present at the meeting were Dr. Carole Nash, Dr. Tom Benzing, Dr. Melany Clark, Dr, David Furth, Katherine McGuire, Zach Ryder, and Ben Williams.

Ben Williams called the meeting to order and asked the board to approve the minutes from the Nov. 15, 2025 and May 16, 2026 meetings of the committee. The minutes were approved unanimously.

The next action item was two changes to the VMNH Live Animals Policy. Williams outlined the two changes. The first proposed change was the removal of text relating to the museum's leaf cutter ant colony, as the museum no longer keeps leaf cutter ants following the colony's collapse. The second proposed change was regarding the care sheets for the live animals. Previously, board approval was required for any changes to the care sheets, but given how frequently these sheets change, staff asked that the committee recommend to the full board that board approval is no longer required for these changes. The action items regarding the changes to the live animals policy passed unanimously and the committee will recommend these changes to the board at its full meeting in November.

The committee also considered five candidates who have applied to be VMNH Research Associates: Dr. Paul Sattler, Dr. Kevin Bezy, Dr. Ben Kligman, Dr. Keiko Meshida, and Jeff Carpenter. Katherine McGuire asked whether Research Associates incur any expenses for the museum and also asked whether the museum receives any of the overhead if a Research Associate has a grant disbursed through the VMNH Foundation. Williams said that Research Associates do not cause any expense for VMNH and that the Foundation generally receives a percentage of the overhead on Research Associate grants. The committee unanimously voted to recommend to the full board that the five Research Associate candidates be approved.

Dr. Tom Benzing made a motion that the Research and Collections committee recommend to the full board that the board ask the VMNH Foundation to examine current rates of overhead for grants in order to make sure the Foundation isn't being shortchanged. The motion passed unanimously.

Ben Williams adjourned the meeting.

VIRGINIA MUSEUM OF NATURAL HISTORY
RESEARCH AND COLLECTIONS ACTIVITIES

Report to the Board of Trustees
July-September 2026

Kaloyan Ivanov, Ph.D.
Associate Curator of Invertebrate Zoology

Dr. Jackson Means
Associate Curator of Myriapodology

- Drs. Ivanov and Means, and colleagues published papers at *Zoologia* and *Austral Ecology*.
- Drs. Ivanov and Means, and colleagues have a manuscript accepted at *Spixiana*.
- Drs. Ivanov and Means, and colleagues have manuscripts in review at *Zoologia, IBIS*, and *Austral Entomology*.
- Dr. Ivanov and colleagues have a manuscript in review at *Zootaxa*.
- Dr. Ivanov provided training in insect identification and natural history to members of the Southwestern Piedmont Chapter of the Virginia Master Naturalists.
- Drs. Ivanov and Means, and L. Hightower participated in VMNH's Dino Festival and interacted with 2,500+ visitors.
- Liberty Hightower and museum staff presented programs at Central Virginia Governor's School for Science and Technology.

Research & Collections

Drs. Ivanov and Means, Dr. R. S. Bouzan, Dr. A. D. Brescovit, Caroline T. Paranhos, Ricardo Cezar Ramos Nicolau (Instituto Butantan, Brazil), and Dr. L. F. M. Iniesta (Universidade Federal de Pernambuco, Brazil) published a paper at *Zoologia*. The study reports the first record of the paradoxosomatid *Helicorthomorpha holstii* (Pocock, 1895) in Brazil, expanding the known distribution of this East Asian millipede to South America, and provides an updated list of the introduced millipedes of Brail.
[Bouzan, R. S., A. D. Brescovit, J. C. Means, K. Ivanov, C. T. Paranhos, R. C. R. Nicolau, J. Romero-rincon, and L. F. M. Iniesta. *Helicorthomorpha holstii* (Pocock, 1895) (Polydesmida, Paradoxosomatidae): a new introduced millipede in Brazil and updated list of species. Zoologia 43: e25086]

Drs. Ivanov, Means, Bouzan, Iniesta, Brescovit, Dr. R. A. Castro-Souza (Universidade Federal de Lavras, Brazil), and Ph.D. student M. D. Faustino-Magalhães (Instituto Butantan) published a paper at *Austral Ecology*. The work explores the sampling biases associated with the known distribution of the millipede order Spirostreptida in Brazil's Atlantic Forest biome.
[Iniesta, L. F. M., R. A. Castro-Souza, J. C. Means, K. Ivanov, A. D. Brescovit, M. D. Faustino-Magalhães, and R. S. Bouzan. Occurrence records of Brazilian Spirostreptida (Myriapoda: Diplopoda) in the Atlantic Forest are biased towards proximity to state highways and urban areas. Austral Ecology 51: e70288]

Drs. Ivanov and Means, Bouzan, Brescovit, and Iniesta have a manuscript accepted at *Spixiana*. The work reports the first case of an adult female with fully developed gonopods (specialized male copulatory structures) in the millipede family Chelodesmidae. This rare morphological condition expands our understanding of intersexuality in millipedes and raises questions regarding developmental pathways and genetic regulation of sexual traits in the order Polydesmida.

Drs. Ivanov, Means, Iniesta, Brescovit, Bouzan, and Castro-Souza have a manuscript in review at *Zoologia*. The work is the first global assesment of the distribution and sampling ignorance of cambalidean millipedes (Diplopoda: Spirostreptida: Cambalidea). By integrating species richness and ignorance metrics, the study identifies regions where collecting efforts, taxonomic revisions, and biodiversity inventories are most urgently needed.

Drs. Ivanov, Means, Bouzan, Brescovit and Iniesta, Dr. Hevana S. Lima (Universidade Federal de Pernambuco, Brazil), and Dr. Ricardo Basini-Silva (Instituto Butantan, Brazil) have a manuscript in review at *IBIS*. The work is a comprehensive review of bird anting behaviors utilizing millipedes, a significant, yet understudied, resource for avian self-anointing.

Drs. Ivanov, Means, Bouza, Brescovit, Iniesta, and Dr.Dr. Rodrigo L. Ferreira (Universidade Federal de Lavras, Brazil) have a manuscript in review at Austral Entomology. The work focuses on testing the monophyly and tribal palcement of the Brazilian endemic millipede genus *Rupidesmus* (Diplopoda: Chelodesmidae). The study includes the description of two new cave-dwelling species from the state of Minas Gerais.

Dr. Ivanov, Dr. C. Bartlett and student L. Hook (U Delaware), Dr. J. Leavengood (USDA- APHIS), and Dr. B. R. Garcete-Barrett (Museo Nacional de Historia Natural, Paraguay) have a manuscript in review at *Zootaxa*. The work is a revision of the South American planthopper genus *Protachilus* (Hemiptera: Fulgoridae) and includes the description of the previously unknown male of *Protachilus rex* Fennah, 1944, and two new species from Brazil, Ecuador, and Peru.

Dr. Ivanov and colleague myrmecologists from various Florida and Georgia institutions are completing work on a manuscript focused on the non-native myrmecofauna of Florida. The study is a comprehensive account of all non-native ant taxa recorded from Florida, a global hotspot of introduced and invasive ants.

Drs. Ivanov and Means, Dr. J. Pérez-Schultheiss (Museo Nacional de Historia Natural, Chile), and A. Parra-Gómez (Universidad Austral de Chile) are completing work on revising the South American millipede genus *Monenchodesmus* (Polydesmida: Dalodesmidae). The work includes the description of a new genus and species from Chile.

Drs. Ivanov and Means updated annual departmental Aquisition Plans.

Dr. Means processed (removed and sorted specimens for identification) 20 litter samples from recent collecting trips to Japan, Philippines, Vietnam, and the United States (North Carolina).

Dr. Means identified and curated 19 specimens (millipedes and spiders) for VMNH's molecular collection, with another 2,000+ specimens put aside for various taxonomic experts.

Dr. Means curated and identified 11 specimens (millipedes and spiders) from a recent trip to Florida.

Liberty Hightower prepared 941 ants and five non-ants from recent field work in Florida, Philippines, and Vietnam..

Dr. Ivanov and L. Hightower processed and curated 87 longhorn beetles (Coleoptera: Cerambycidae: *Prionus*) from a recently returned loan.

Dr. Ivanov and Means responded to information request regarding VMNH holdings: *Anthophylax hoffmani* (Cerambycidae; longhorn beetles) (Lance Jessee, The Nature Center at Steele Creek Park, TN); Ormyridae (parasitoid wasps) and *Ceroptres* (Cynipidae; gall wasps) (Fig Eyres, U Nebraska-Lincoln, NE).

Dr. Ivanov satisfied a loan request regarding VMNH's invertebrate holdings: 33 pinned identified *Scaphinotus* (i) specimens (Carabidae, ground beetles) to Dr. James R. LaBonte (Oregon Department of Agriculture, retired).

Dr. Means oversaw the acquisition of 348 lots of alcohol-preserved identified myriapods and 24 lots of alcohol-preserved bulk invertebrates donated to VMNH by Dr. D. Hennen (VA DCR).

Education & Outreach

Liberty Hightower and VMNH Education Manager Christy Deatherage presented bird displays at the Nature Expo at Smith Mountain Lake State Park, a partnership between the Virginia Master Naturalists Blue Ridge Foothills and Lakes Chapter and the Virginia Department of Conservation and Recreation. The event was attended by 150 children and adults (July 11)

Liberty Hightower and museum staff presented hands-on programming to participants from the Central Virginia Governor's School for Science and Technology on the campus of the University of Lynchburg. (July 16)

Drs. Ivanov and Means, and L. Hightower participated in VMNH's 16th annual Dino Festival which offered a variety of displays and activities that ranged from fossils and casts from the museum's collections to animatronic dinosaurs, live animals, and a wide variety of dinosaur-themed children's activities and crafts. The two-day event attracted 4,229 children and adults, including 1,069 *Museums for All* visitors, from Virginia, North Carolina, and twelve additional states. (July 24-25)

Drs. Ivanov and Means hosted a special event for museum members and patrons and outlined recent work and activities in the Department of Recent Invertebrates. The event was concluded with a tour of the Department's laboratories and collections. (September 24)

Dr. Ivanov provided training in insect collecting, identification, and natural history to members of the Southwestern Piedmont Chapter of the Virginia Master Naturalists. VMNH is one of the seven sponsoring agencies of the Virginia Master Naturalists Program, which is designed to develop a group of well-trained volunteers to provide education, outreach, and services dedicated to the management of natural resources and natural areas for the Commonwealth of Virginia. (September 28)

This quarter, Drs. Ivanov and Means, and L. Hightower gave tours of the museum's labs and collections to visitors from Blacksburg, Richmond, and Henry County, VA, and PA. (July 14, 17, and September 9)

Student intern Sara Wall (Virginia Wesleyan U) completed work in the Department of Recent Invertebrates in mid-August. While at VMNH, Sara assisted with various aspects (data capture, literature review, etc.) of the recently launched Millipedes of Virginia Project.

Volunteer Lauren Apel continued work in the Department of Recent Invertebrates by processing new and backlogged litter and Malaise samples from North Carolina, Philippines, and Vietnam in support of various research projects.

Exhibits

Dr. Ivanov and museum staff continued participation in bi-weekly meetings and work on VMNH's upcoming temporary exhibit "Wonders of Waterfowl."

Professional Service

Drs. Ivanov and Means helped organize the sixth general meeting of the Virginia Natural History Society to be held at Averett University, Danville, VA on November 14.

Dr. Means served as an editor for four manuscripts submitted to *Banisteria*. (completed July 8, September 23, 24, and 25)

Dr. Means reviewed manuscripts for *International Journal of Tropical Insect Science*, *Scientific Reports*, *Ecology and Evolution*, and *Zoosystema*. (completed July 20, August 7, and September 1, 22)

Dr. Ivanov reviewed manuscripts for *Entomological News*, *International Journal of Tropical Insect Science*, and *Midsouth Entomologist.* (completed July 9, 24, and August 26)

Dr. Ivanov copy edited four articles for *Banisteria* (Volume 61). (completed July 8, September 23, 24, and 25)

Hayden Bassett, Ph.D.
Assistant Curator of Archaeology

Introduction

The VMNH Archaeology Department is currently staffed by 5 personnel as of October 2026. This includes the Department Curator, the VMNH Archaeologist, the two core staff of the Cultural Heritage Monitoring Lab and one Archaeology Lab technician. Over the past three months, Dr. Hayden Bassett focused the department's efforts on publications, collections management, and fieldwork on the Smith River in Henry County, VA.

Research and Collections

The VMNH Archaeology Department continued collections organization efforts with the goal of enabling research in Virginia Archaeology. The lab coordinated volunteers to re-bag and label artifact assemblage bags from several sites in Virginia with high research potential. This effort ensures that the VMNH is maximizing research potential with the Commonwealth's collections by ensuring the long-term integrity of its archaeological contexts.

In September, the Archaeology Department continued field work in Henry County, VA. This included the discovery and documentation of a "corduroy road," which once served as one of the primary fords across the Smith River near Stanleytown, VA. The ford was made of parallel logs buried into the riverbank to create a stable roadbed for people, horses, and wagons crossing the river. To document the site, the VMNH Archaeology Department hosted two archaeologists from the Virginia Department of Historic Resources for a collaborative, no-cost interagency effort. This discovery and documentation effort received local and state-wide media attention. The VMNH completed 3D documentation of the ford using photogrammetry and are currently using the VMNH archaeology lab's dendrochronology capabilities to date the logs used in the construction of the corduroy road.

As a producer and curatorial repository of digital collections, the VMNH Archaeology Department has expanded its digital collection holdings by nearly 5,000 "objects" this quarter and anticipates further growth in digital collections with each new quarter. At the request of its research stakeholders, the new objects include expanded cultural heritage site locations for Texas, Washington state, and Nepal. The Archaeology Department's CHML is using these data to assess impacts to cultural heritage from recent natural disasters. These digital objects in the VMNH's collections have already been requested/accessed by multiple outside organizations.

A part of Dr. Bassett's research efforts this quarter were dedicated to continuing the leading role played by the VMNH's Cultural Heritage Monitoring Lab (CHML) in response to the destruction of museums, archaeological sites, and other cultural heritage sites in Ukraine and Sudan. Since February 2022, the VMNH-CHML team has been monitoring over 28,000 cultural heritage sites in Ukraine, identified potential damage to 4,500 sites, and confirmed damage to 790. The VMNH team is also

monitoring Sudan's museums, religious sites, and archaeological sites in the areas impacted by the ongoing civil war. In October, VMNH's CHML Senior Analyst presented at the US Department of State headquarters in Washington, D.C., on how the lab uses satellite technology to monitor cultural heritage in conflict.

Publications

In October, Dr. Bassett and his team's manuscript, "Riverine Settlement and Aquatic Resource Use in Late Woodland Virginia" passed peer-review and was for accepted publication in the journal *American Antiquity*. The journal *American Antiquity* is considered the flagship journal of North American archaeology.

Peer-Reviewed Publication this Quarter (VMNH Archaeology authors in bold):

Bassett, H., Gunter-Bassett, M., Barber, M. B., **Lawrence, A., Ross, M.** (2026, *in press*). "Riverine Settlement and Aquatic Resource Use in Late Woodland Virginia." *American Antiquity*. DOI: 10.1017/aaq.2026.10259.

Additionally, VMNH's CHML team published two open access reports this quarter through the Smithsonian Institution. As of October 2026, the total readership of the VMNH's Archaeology Departments publications from the past 36 months is 72,774 reads and 11,418 downloads.

Published Reports this Quarter (VMNH Archaeology authors in bold):

Maher, A., Ragland, R., **Fitzgerald, K., Bassett, H., Welsh, W.,** Carroll, C., Averyt, K. and Hanson, K. (2026). "Hurricane Damage to Cultural Heritage Sites in Jamaica," Virginia Museum of Natural History, Cultural Heritage Monitoring Lab; Smithsonian Institution, Museum Conservation Institute—Smithsonian Cultural Rescue Initiative. DOI: 10.25573/data.34439778

Hanson, K., Meharry, J. E., Ievseieva, L., Shchurko, I., Pohranychnyi, M., Rozhko, V., Zadorozhna, M., Kovalova, P., Cil, D., **Fitzgerald, K**., Aronson, J., **Bassett, H.,** Averyt, K., Kane, K. E., **Gunter-Bassett, M., Welsh, W., Maher, A.,** Muller, C. E., and Daniels, B. I. (2026). "Site Report: Damage to Bernardine Monastery Ensemble in the Historic Center of Lviv, Ukraine," Ukrainian Heritage Monitoring Lab; Virginia Museum of Natural History, Cultural Heritage Monitoring Lab; University of Pennsylvania Museum of Archaeology and Anthropology, Penn Cultural Heritage Center; University of Maryland, Center for International Development and Conflict Management; and Smithsonian Institution, Museum Conservation Institute–Smithsonian Cultural Rescue Initiative. DOI: 10.25573/data.33070292

Education and Outreach

Museum Exhibits / Services / Outreach:

Between August and October, the VMNH Archaeology lab provided sustained support to in-house exhibits. This included the acquisition of reproduction fishing hooks, cordage, and nets used by Virginia's First Peoples for the current waterways exhibit. Additionally, Dr. Bassett is currently serving on the team assisting the VMNH Exhibits Manager with the 2027 Virginia waterfowl exhibit.

In late August, the CHML completed a semester-long internship experience with a high school student. The high schooler spent the semester working with satellite imagery to

assess damage to cultural heritage properties on the island of Jamaica from Hurricane Melissa (Cat. 5). The capstone project of the internship was the opportunity to serve as an author on the published report for this assessment (see publications section above).

In September, Dr. Bassett presented a paper on Late Woodland fishing and riverine settlement in Virginia at the Archaeological Society of Virginia's annual conference in Richmond. The conference was one of the largest in recent years for the organization. In October, the VMNH Archaeology Lab assisted a local community member with a request for dendrochronology, or tree-ring dating, of a local log. The large red oak log in question came from a building in Martinsville constructed in 1924, and the community member wanted to know the age of the tree. This request allowed the VMNH archaeology lab to opportunistically use its in-house dendrochronology capabilities to process the tree ring data and reveal the local climate record from the 1700s-1800s. After processing, the log revealed tree rings extending back to 1763. This record was subsequently used by the VMNH archaeology team to refine their local tree-ring / climate signature for this time period, which will facilitate better dating of historic structures in our region.

Professional Service:
In September, Dr. Bassett was asked to join the publications committee of the Archaeological Society of Virginia. Additionally, he continued his appointment as a Fellow of The Explorers Club. In October, Dr. Bassett was re-appointed as an affiliated faculty member in William & Mary's Department of Anthropology for a three-year term. This quarter, Dr. Hayden Bassett and VMNH staff archaeologist Dr. Madeleine Gunter Bassett continued to fulfill their duties in the Archaeological Society of Virginia (ASV) and Council for Virginia Archaeologists (CoVA). This included participating in the annual ASV and CoVA meetings in Richmond. In their roles on committees in these organizations, VMNH Archaeology staff provide direction, technical review, grant approvals, among other tasks for state-wide archaeological research for the foreseeable future.

- Dr. Pritchard and paleontology technician Lucy Treado led a field trip to the Carmel Church Quarry in early August of 2026. The trip served students from the College of William & Mary and Virginia Tech, amateur paleontologists from Ashland, and volunteers from northern Virginia. Specimens recovered included the posterior portion of a whale skull, a series of dolphin vertebrae, and the largest megalodon shark tooth ever found at CCQ.
- Dr. Pritchard, paleontology research associate Joshua Safley, and exhibits manager Lila Dougherty collaborated and installed an exhibit on the 3D modeling and natural history of the Triassic long-necked reptile *Tanytrachelos*, a species represented by hundreds of fossils from southeast Virginia. Part of a program funded by the Luck Companies Foundation and the VMNH Foundation, the exhibit is permanently installed in the Hall of Ancient Life.
- In collaboration with Dr. Noel Boaz and a team from Virginia Commonwealth Universitiy and the Cincinnati Museum Center, Dr. Pritchard submitted a manuscript to the *Proceedings of the American Philosophical Society* on the natural history of a mastodon skeleton that was likely recovered during the early nineteenth century from northern Kentucky and then researched by Thomas Jefferson.

Research & Collections

Dr. Pritchard has one paper in press and has a second paper in review:

- An analysis of VMNH reptile skull bones from Fraser sites in the United Kingdom that represent a new taxon of small carnivorous reptile in revision for *Earth & Environmental Science Transactions*, led by Dr. Sterling Nesbitt of Virginia Tech.
- A review and taphonomic study on VMNH mastodon material that was likely part of the collections of Thomas Jefferson. The study was led by Dr. Noel Boaz and is in review with the *Proceedings of the American Philosophical Society*.

Dr. Pritchard had three abstracts accepted for presentation at the Society of Vertebrate Paleontology Annual Meeting in Cleveland, OH in November 2026. One is primary-authored and two are co-authored.

Dr. Pritchard and paleontology technician Lucy Treado led a field trip to the Carmel Church Quarry for a week in early August of 2026. The trip recovered the final portions of a skull of a baleen whale (“Wade”) from the St. Marys Formation that had been discovered in 2017 by Alex Hastings and his teams. Other discoveries from the site included a small dolphin vertebral series and the largest megalodon shark tooth ever found at the site.

In ongoing projects, Dr. Pritchard:

- Continued work on 3D modeling databases and manuscript submission plants for work on a Triassic digging reptile paper.

- Began writing a descriptive manuscript on a collection of crocodylian fossils from the Cretaceous Period of Madagascar, a collaborative project with paleontologists from Stony Brook University, the National Museum of Natural History, and the Universite d'Antananarivo.
- Discussed and transferred information with a collaborative team working on resolving taxonomy in Triassic long-necked reptiles from the eastern United States.
- Revised and reviewed a student-led manuscript on the tail anatomy of the long-necked reptile *Tanytrachelos*.

Dr. Pritchard developed the collections in several targeted ways:

- Dr. Pritchard accepted a donation of fossils, casts, and sculptures from the Jeremiah family of Roanoke, Virginia.

Dr. Pritchard worked with several scientific workers and private citizens seeking to use VMNH collections in their work, providing collections information to two researchers.

Education & Outreach

Dr. Pritchard oversaw a month-long internship for an undergraduate geology student (Sam Shuffleton) from the University of Mary Washington. Funded by a grant from Mary Washington, the student who documented, photographed, and cataloged over 150 vertebrae from the giant marine snake *Paleophis*. She then participated as a presenter at the 2026 Dinosaur Festival and as a co-instructor at the VMNH paleontology course for the Lynchburg Governor's School.

Dr. Pritchard, research associate Joshua Safley, and exhibits manager Lila Dougherty completed and installed a permanent exhibit on the Triassic long-necked reptile *Tanytrachelos* in the Hall of Ancient Life. The exhibit presents a 3D skeleton of *Tanytrachelos* and a guide to the process of CT scanning and modeling.

Dr. Pritchard and technician Lucy Treado presented Virginian dinosaur footprint specimens together with comparable dinosaur bones from collections bones from Wyoming. VMNH specimens were also presented as part of outdoor public talks by Dr. Pritchard; a student table on Wyoming dinosaur digs led by students from the University of Lynchburg, the College of William & Mary, and Appalachian State University; and a table on Triassic reptiles led by research associate Joshua Safley. Over 3900 attendees were served by Dinosaur Festival 2026.

Dr. Pritchard and paleontology intern Sam Shuffleton from the University Mary Washington led three sessions of a fossil shark tooth identification program for the Lynchburg Governor's School in July 2026. The program served over 50 students.

Dr. Pritchard provided collections and lab tours for two fossil donors from Roanoke, VA; a homeschool group from the VMNH education programs; over twenty members of the VMNH Foundation and Trustees boards during an event celebrating Petra the cave cat specimen; and an online group of families at the Fairfax County Public Library.

Dr. Pritchard provided 6 identifications and information on fossils for private citizens.

Dr. Pritchard was interviewed for the “Prehistoric Life” podcast series.

Grants & Funding

Dr. Pritchard was compensated for his educational programming for the University of Lynchburg Governor’s School, further supporting the paleontology lab.

Dr. Pritchard coordinated with Deputy Director Ryan Barber to use $10,000 from the Hermes Fund in support of the Petra exhibit to fund research associate Joshua Safley to 3D scan and model the skeleton of Petra for the exhibit and outreach purposes. Mr. Safley will begin his work in Q4 2026.

Professional Service

Dr. Pritchard reviewed an article for *Scientific Advances.*

Jackson Roberts, Ph.D.
Assistant Curator of Herpetology

- Dr. Roberts successfully obtained VDWR collection and salvage permits for Virginia.
- Dr. Roberts successfully obtained a collection permit for the Eastern Copperhead and Northern Cottonmouth from Charleston, SC.
- After a three-day field expedition, he and Dr. Ed Myers (California Academy of Sciences) collected two Cottonmouths and one Copperhead.
    - These snakes will be used to generate the first annotated genomes of their species, and to the highest quality achievable with genome sequencing (Telomere-To-Telomere; T2T)
- While in South Carolina, Dr. Roberts gave an invited presentation about museum careers to a middle school in Beaufort, SC.
- Dr. Roberts submitted a Franklin Research Grant proposal through the American Philosophical Society for a proposed $7,000 to cover most of the Copperhead Genome costs.
- Dr. Roberts continued as a committee member for the *Wonders of Waterfowl* exhibit at the VMNH.
- Dr. Roberts attended the Virginia Herpetological Society's meeting and was voted in as Vice-President.

Research & Collections

Dr. Roberts has been collecting and growing the VMNH herpetology collections since his approval for a VDWR herpetology collection permit. Since the summer, he has collected 21 specimens, all include physical specimens and genomics-quality tissue subsamples.

For his ongoing Eastern Copperhead genomics project, Dr. Roberts acquired a collection permit for South Carolina, specifically Charleston County. Charleston is a critical locality in the systematic assessment of Copperheads because it represents the type locality for the original specimen used by Linnaeus to describe the species. Charleston is also the type locality for the sister group of the Copperhead, the Cottonmouth. The first week of October, with collection permit in hand, Dr. Roberts and collaborator Dr. Ed Myers (California Academy of Sciences) went to Charleston and surveyed the historical property of the Drayton Hall Charleston South Carolina Lowcountry Plantation. After three 100% humidity days in the lowland hardwoods, Drs. Roberts and Myers found and collected two cottonmouths and one copperhead. These animals were tissued for whole genome sequencing. The genomes that will be sequenced will be T2T (Telomere-To-Telomere) genomes, the same genome quality that the current human genome draft is annotated.

The number Dr. Roberts is trying to reach is $8,000 per species, thus $16,000 total. To help reach the $8,000 needed for the Copperhead T2T, Dr. Roberts submitted a Franklin Research Grant proposal to the American Philosophical Society for $7,000 (maximum amount allowed).

Exhibits

Dr. Roberts continued working with Lila on the bird exhibit, now titled *Wonders of Waterfowl*. The committee is making progress on the exhibits theme and design for the January opening.

Education & Outreach

Dr. Roberts curated and worked at the VMNH Herpetology table at the 2026 Bones and Booz Festival (24 October). His table focused on the function of venom, the three venomous snakes of Virginia, and how these snakes differ in home range, venom toxicity, and abundance in the state.

Dr. Roberts led three behind-the-scenes lab tours of the herpetology division this quarter. These tours comprise roughly 22 people. Specifically, tours were given to the VMNH paleontological collections manager and her two friends, the herpetologist Dr. Tara Pelletier (Radford University) and her family, and the Smith Mountain Lake Yacht Club.

Dr. Roberts gave a presentation via Zoom to the International Rotary Club titled, *"Do we still need snakes in jars? A case study using the venomous Eastern Copperhead of the US."* The presentation was attended by members from all over the world, including countries such as the United Kingdom, Australia, and India.

Dr. Roberts gave a two-hour interview to a local Fox News affiliate (WFXR) about the herpetology collections, why the VMNH has them, and what research is being done here.

While conducting fieldwork in Charleston, SC, Dr. Roberts gave an invited presentation about museum careers, and alternate strategies for becoming a scientist. This presentation was given to the middle schoolers of Bolden Elementary and Middle School in Beaufort, South Carolina.

Dr. Roberts answered one public inquiry about an urgent snake identification question emailed to the VMNH public email.

On 10 November, Dr. Roberts will give an outreach talk titled, *"These snakes work for you: natural history collections and their position in the public trust"* in Waynesboro, VA, as a part of the Waynesboro Theatre's Science Talk Series.

Professional Service and Mentorship

Dr. Roberts attended the Virginia Herpetological Society's meeting in Richmond, VA on 17 October. Although his first meeting, Dr. Roberts was voted in as Vice-President to quickly learn the regulations and proceedings of the society.

Dr. Roberts continued the mentorship of his two remaining students in Kansas, Dawson Kosmicki (MSc student at Fort Hays State University) and Amelia Coykendall (Undergraduate at FHSU). He supported his undergraduate student, Amelia, through her first grant proposal through the successful submission of a 2026 NSF Graduate

Research Fellowship application. If her proposal is funded, she will be starting a PhD with Dr. Frank Burbrink at the American Museum of Natural History.

In addition, Dr. Roberts is serving on the graduate committees of two mammal-focused MSc students at FHSU (Cody Christian and Henry Hein; Dr. Lorelei Patrick's lab).

Collin VanBuren, Ph.D.
Visiting Scholar

- Dr. VanBuren had three papers accepted for publication this quarter
- Dr. VanBuren attended two conferences where he presented a workshop and participated in a panel for the Southeast Beaver Alliance
- Dr. VanBuren mentored a summer intern from Longwood University who is now applying for graduate school

Research & Collections

Dr. VanBuren and colleagues had three papers accepted this quarter:

- van Rees, VanBuren, et al. 2026. Eight recommendations to enhance biodiversity outcomes of nature-based solutions at multiple scales. *Journal of Environmental Management.* 414:130518
- Stevenson, VanBuren et al. *Accepted*. Changes in pollinator resources over time in a high-elevation rangeland under interacting drought stress and variable livestock grazing. *Rangeland Ecology & Management.* 109:84-99
- VanBuren and Alroy. 2026. Range maps and occurrence data support different biogeographical hypotheses about Australian amphibians. *Global Ecology & Biogeography*. 35(9):e70299.

Dr. VanBuren has another paper in review with VMNH colleagues M. Boyd and Dr. H. Bassett with *Northeastern Naturalist*, titled “Observations of beaver (*Castor canadensis*) foraging on autumn olive (*Elaeagnus umbellate*) in southern Virginia.

Dr. VanBuren assisted in acquiring the personal collection of Dr. Don Linzey (with M. Boyd, J. Roberts, and J. Keiper) to add to the VMNH collections.

Dr. VanBuren attended the annual Ecological Forecasting Initiative Conference in Toronto, ON and participated in a workshop for an ongoing review of decision support research in natural resources management

Dr. VanBuren attended the biennial BeaverCon and spoke on a panel with other members of the Southeast Beaver Alliance

Dr. VanBuren acquired permits to conduct fieldwork in Guilford County, NC to continue research beaver foraging preference.

Education & Outreach

Dr. VanBuren mentored an undergraduate summer research intern (Matthias Borneff, Longwood University) for six weeks involving fieldwork, statistical coding training, and exposure to social dimensions of conservation.

Dr. VanBuren staffed an outreach table at Dino Fest on fossil thyreophoran footprints found in Virginia

Dr. VanBuren designed and delivered a workshop at BeaverCon with two student colleagues (K. Kirksey and A. Connaughton) on “Improving outcomes for young people in beaver restoration and management programs: Applying Positive Youth Development”

Dr. VanBuren joined the committee working to design the upcoming “Wonders of Waterfowl” in-house temporary exhibit.

Professional Service

Dr. VanBuren continues to participate in the “nutria task force” monthly calls with state and federal wildlife managers, and in his role as Strategy Planning and Implementation Chair of the Southeast Beaver Alliance (SEBA)

Vertebrate Zoology
Marshall Boyd, Research Technician

Research & Collections

Research & Collections

Field work

M. Boyd, C. VanBuren, and H. Bassett have continued documenting beaver activity across areas surrounding about a 1-2 hour radius of Martinsville including site visits, trail camera documentation and dendrochronology specimen acquisition. Anticipation of intern involvement for continued data collection and hopeful publication of this activity will continue throughout 2026. More sites with active beavers and the presence of Autumn Olive have been documented and are planned to be visited in the next quarter stretching to the surrounding counties. M. Boyd and C. VanBuren hosted an internship for Mattias Borneff to work alongside the VMNH on the Autumn Olive documentation.

M. Boyd and J. Roberts collected snake specimens under new permits to begin a more active collection of Virginia native species of snakes especially within the immediate surrounding areas to the VMNH.

Ongoing research

M. Boyd continues to collaborate with Dr. VanBuren on beaver and autumn olive research along with coordination of the developing Smith River project including Dr. Bassett. The project has reported on fauna found in or around the Smith River using camera traps with more technology and coordination on survey methods in the coming quarter. This project will include intern work, active collaboration with Fairy Stone State Park, Philpott Dam, and Dan River Basin Association (DRBA).

M. Boyd assisted J. Roberts in the tissue extraction and preservation of Virginia native snake specimens for the continued expansion of the VMNH herpetology tissue collection. Roberts is anticipating extraction and sequencing of several species as part of his research program.

Professional Development

M. Boyd along with several other staff traveled to Washington, D.C. to attend a bird specimen preparation workshop led by Smithsonian staff where dry bird specimens were the main focus of learning techniques but also included a rundown of fluid bird specimen preparation and several collections tours both downtown and at the satellite facility Museum Support Center (MSC).

M. Boyd worked alongside Dr. Paul Sattler, as a research associate of the VMNH, to identify the backlog of salamanders within the VMNH collections. Dr. Sattler’s expertise in salamander identification is an essential asset to the collections and will allow

specimens to be added to the VMNH collections database and therefore the research collection itself.

M. Boyd along with Dr. Jackson Means continued hosting a paid intern Majestic Utt funded through one of the VMNH endowment programs. Majestic will be working part-time for several weeks on collections based projects determined by Boyd and Means per schedule allowance.

M. Boyd, along with several members of staff within the VMNH, began meetings for the development of the Wonders of Waterfowl exhibit set to open in January 2027.

Collections Growth, Management and Use

M. Boyd along with H. Cartmell, C. VanBuren, and L. Hightower have continued to have volunteers working on collections either through Virginia Master Naturalist or more generalized volunteers who apply through the programs at the VMNH.

M. Boyd and J. Harris have continued to coordinate with Margaret Harden for the digitization of the VMNH nest and egg collection. M. Harden is documenting all the information of the ledger catalog that is associated with that collection into a digital spreadsheet. This ongoing project, when finished, will contribute towards the recuration of the collection and hopeful research project collaboration(s) in the future.

M. Boyd continues to collect DOR specimens and those donated by other institutions for the growth of vertebrate zoology research collections along with the education/outreach collections.

M. Boyd along with other collections staff and Executive Director, Dr. Joe Keiper, acquired the life collection of vertebrate specimens collected and preserved by Dr. Linzey of Blacksburg, VA.

M. Boyd and Benjamin Williams conducted an inventory of equipment utilized by previous curators of the VMNH and began the assessment for use and or disposal of any items no longer able to be used by the museum.

Education & Outreach

VMNH-based Activities

M. Boyd along with the rest of the VMNH staff hosted the 2026 DinoFest bringing in thousands of visitors of all ages.

M. Boyd taught the Herpetology taxonomy night course for the current Master Naturalist cohort of the Southwest Piedmont Chapter.

M. Boyd gave a behind the scenes tour of the VMNH collections to visiting artist and author Suzanne Stryke who was at the VMNH for an artist workshop. Boyd along with Lila Dougherty hosted Mrs. Stryke for a dinner social afterwards.

non-VMNH based Activities

M. Boyd along with several other VMNH staff coordinated the Governor's School programming at University of Lynchburg where classes on museum collections work and taxonomy were presented to about 150 students total.

M. Boyd developed a pollinator based "Leave the Leaves" table display for the Martinsville Bee City Flight Festival with over 50 interactions.

M. Boyd led a herpetology hike at Seven Bends State Park with 14 visitors.

M. Boyd presented for the Virginia Herpetology Society a table display discussing local herpetofauna interacting with 29 visitors of the Beats on the Bend event at Seven Bends State Park.

M. Boyd presented for the Virginia Herpetology Society a table display discussing local herpetofauna interacting with 51 visitors a the annual NatureFest of Herndon, VA.

M. Boyd and Master Naturalist Christine Stewart have continued the monthly presentations at Kings Grant retirement community about the wildlife found in the Martinsville/Henry County area.

Media

M. Boyd continues to be the Social Media Chair for the Virginia Herpetological Society (VHS) where educational material, announcements for programming and community outreach occur.

M. Boyd continues to be the Social Media Coordinator for the Virginia Chapter of The Wildlife Society including the Facebook and Website where educational material, announcements for programming and community outreach occur.

Professional Service

M. Boyd continues to be the Vice President and Social Media Chair for the Virginia Herpetological Society.

M. Boyd continues the role as Social Media Coordinator for the Virginia Chapter of The Wildlife Society

M. Boyd continues to serve on the executive committee for the Friends of Fairy Stone State Park nonprofit organization.

M. Boyd joined as a member of the Southeastern Beaver Alliance (SEBA).

Research and Collections

Jill K. Harris, Registrar

Twelve (12) collections acquisitions were recorded for approximately 265 individual specimens, 372 vials, and 17 boxes of specimens. These specimens were added to the invertebrate zoology, vertebrate zoology, paleontology, and education collections.

Eight (8) outgoing loans were recorded from the invertebrate zoology, paleontology, archaeology, and education collections. The loans were to: Virginia Tech, American Museum of Natural History, Towson University, Reynolds Homestead, Blue Ridge Public Library, and the Oregon Department of Agriculture.

Ms. Harris (database administrator) reports that, within the collections management system *Re:discovery Proficio,* VMNH staff added/modified/updated 325 catalog records, according to database administrative dashboard.

Haley Cartmell, Collections Manager

Curators and staff modified/updated 239 existing records and added 279 new records to the VMNH collections databases (Proficio and EGEMS) during the months of July, August, and September 2026.

In July, research and collections staff (H. Cartmell, L. Hightower, M. Boyd, and A. Pritchard) traveled to Lynchburg, VA, to provide educational programming for approximately 150 high-school students from across Virginia attending the Lynchburg Residential Governor's School summer program. Each participating VMNH staff member provided educational programming for three classes of roughly 25 students each on a specific topic. H. Cartmell's program, titled "Caring for Museum Collections" focused on the different types of museum specimens housed at VMNH and the methods of caring for each type of specimen. She also covered environmental controls and pest management in museums.

In August, research and collections staff (H. Cartmell, J. Harris, H. Bassett, and B. Williams) completed the National Survey of Museum Collecting Practices, as requested by the Penn Cultural Heritage Center at the University of Pennsylvania Museum of Archaeology and Anthropology. This survey was launched to examine the practices and policies governing acquisitions, loans, deaccessions, recent ownership resolutions, and current provenance research activity within U.S. museums.

In September, curators and educators submitted acquisition plans for the 2027 calendar year. H. Cartmell compiled these plans and presented them to the VMNH collections committee for approval. The approved plans are attached.

Throughout the year, H. Cartmell and C. VanBuren have been working with Research and Collections staff to expand our volunteer force. At the beginning of July, we had 5 active volunteers working in the labs and collections spaces on various projects. We

gained 2 new volunteers during the quarter. Collectively, these 7 volunteers have contributed 272.75 hours of work for the Research and Collections division during the months of July, August, and September. A synopsis of their contributions for the quarter are as follows:

- Alicia Lantz – contributed 87.5 hours in the Paleontology prep lab working on jacketed fossils, including dinosaur tail bones from Wyoming and whale fossils from the Carmel Church Quarry. She also contributed 45.25 hours in the Archaeology collection making sure specimens are properly packaged and labelled for storage.
- Brian Gentry – contributed 33 hours in the Paleontology collection cataloging hundreds of fossils, including shark teeth and snake vertebrae.
- Donnaah Sparkle – contributed 16.75 hours in the Vertebrate Zoology collection identifying skulls found in owl pellets and rehousing cataloged mammal skeletal material.
- Dustin Hall – contributed 13.25 hours in the Invertebrate Zoology collection topping off fluids in the bulk Invert. section.
- Julie Currier – contributed 35.5 hours in the Vertebrate Zoology collection identifying skulls found in owl pellets and rehousing cataloged mammal skeletal material.
- Margaret Harden – contributed 38.5 hours in the Vertebrate Zoology collection transcribing bird nest/egg data from the handwritten catalog into Excel.
- Tyler Truini – contributed approximately 3 hours in the Invertebrate Zoology collection topping off fluids in the bulk Invert. section.

JULY-SEPTEMBER 2026 VMNH ACQUISITIONS FOR REVIEW BY BOARD OF TRUSTEES RESEARCH AND COLLECTIONS COMMITTEE

RIM* #	Collector/Donor	Date at VMNH	VMNH Dept.	QTY	Description	Method	To Be Accessioned (Y/N)
RIM 25-2026	Christy Deatherage	8/12/2026	DEPP (EDUCATION)	1	Chilean Rose Tarantula (*Grammostola rosea*), VMNH animal ambassador- died of old age	Salvaged	N – for educational outreach
RIM 26-2026	Derek Hennen - VA DCR-DNH	8/27/2026	RECENT INVERTEBRATES	372 vials	alcohol preserved arthropods: 24 vials of "bycatch" and 348 vials of myriapods	Gift	Y
RIM 27-2026	Gael Chaney (via VMNH Annabelle Sechrist)	8/27/2026	DEPP (EDUCATION)	1	abandoned Bluebird nest with eggs	Salvaged	N – for educational outreach
RIM 28-2026	Adam Pritchard	8/10/2026	PALEONTOLOGY	4	plaster jackets w/ baleen whale skull and vertebrae and a bag of small fossils in foil (whale, dolphin, sharks, bird?)	Field Collection	Y
RIM 29-2026	Clinch Mtn Wildlife Mgmt Area VADWR (Thomas Hampton)	8/26/2026	PALEONTOLOGY	1	slab of worm burrow trace fossils, *Arthrophycus*	Transfer	Y
RIM 30-2026	Michael Jeremiah	9/2/2026	PALEONTOLOGY	27	Sculptures and casts (dino-birds, lizard-like animals, shark jaw, Sphenodont, Pterosaur, *Archaeopteryx*); as well as some fossils (palm trunk, insect in matrix, whale ear bones, ground sloth carpals and tooth, Armadillo scutes)	Gift	Y/N
RIM 31-2026	Luke Backlund	7/24/2026	PALEONTOLOGY	2	*Porterfieldia* (genus) trilobite specimens; smaller rock w/2 trilobites, larger rock with 1	Gift	Y
RIM 32-2026	Alicia Lantz	9/30/2026	DEPP (EDUCATION)	7	bird nests of various sizes	Gift	N – for educational outreach
RIM 33-2026	Donald W. Linzey	8/18/2026	HERPETOLOGY	17 cartons	herpetology collection specimens	Gift	Y
RIM 34-2026	Donald W. Linzey	8/18/2026	ORNITHOLOGY	21	bird study skins	Gift	Y
RIM 35-2026	Donald W. Linzey	8/18/2026	MAMMALOGY	~200 +/-	mammal study skins, skulls, misc. vertebrate displays	Gift	Y/N some may go to Education
RIM 36-2026	Sherri Wright	10/6/2026	DEPP (EDUCATION)	1	coyote (*Canis latrans*) full body taxidermy mount	Gift	Y

* RIM is an acronym for the Record of Incoming Material form

VMNH Collections Committee and Executive Director have Approved Recent Acquisitions: RIM 25-2026 through RIM 36-2026

VMNH Board of Trustees Research & Collections Committee Review of Acquisitions: RIM 25-2026 through RIM 36-2026

Dr. Carole L. Nash, Chair _____ _____
(signature) Dr. Carole L. Nash, Chair Date

Dr. Thomas R. Benzing _____ _____
(signature) Dr. Thomas R. Benzing Date

Dr. Melany Clark _____ _____
(signature) Dr. Melany Clark Date

Dr. David G. Furth _____ _____
(signature) Dr. David G. Furth Date

Katherine B. McGuire _____ _____
(signature) Katherine B. McGuire Date

_____ _____
(signature) Date

Note: this info will not print on final version, it is for informational purposes only, to help reviewers.

The only edits made to this document since the August 2023 BOT approved version are:

- the leaf cutter ant colony paragraph was removed, since we no longer have the ant colony, and
- all animal care sheets were removed. These care sheets are not policy, so they will become a procedural document, rather than a policy document. This is due to how frequently these care sheets change and every time they do, they would need BOT approval.

These changes have been approved by the VMNH Collections Committee and Executive Director.

Virginia Museum of Natural History

Policies for Live Animals

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I. Preface

The Virginia Museum of Natural History (VMNH) uses live invertebrates, fish, amphibians, and reptiles in exhibits, education, and public programs as part of its mission to interpret Virginia's natural heritage within a global context in ways that are relevant to all citizens of the Commonwealth. These living collections serve an important role by helping to instill a sense of understanding and respect for creatures that are often misunderstood for a variety of reasons. The VMNH will not keep live mammals or birds without undergoing the American Zoological Association's accreditation process.

II. Institutional Commitment and Animal Care

The VMNH is committed to providing the financial, physical, and human resources necessary to safely and humanely care for the animals entrusted to its care. The Manager of the Department of Education and Public Programs (DEPP) and the Exhibits Manager, in consultation with other relevant staff and outside animal-care experts, are responsible for recommending to the VMNH Executive Director all the resources needed to effectively care for the VMNH's live animals that are housed at the museum. Research and Collections Division staff are responsible for effective care of all live animals housed in their research laboratories and office spaces.

The VMNH staff research the best practices of care and maintenance for each type of animal, and then apply these practices to the fullest extent possible. Under no circumstances will the VMNH take on responsibilities for numbers or types of animals that are beyond its ability to care for humanely, nor will it engage in any activity that threatens the welfare of animals, staff, or visitors. All staff assigned to assist in the maintenance of VMNH animals receive detailed training in the care and handling procedures for each species. The live animal collection at the VMNH is under the care of a licensed veterinarian, as required by permits issued by state and federal regulatory agencies. Yearly wellness checks will be conducted, and veterinary medical staff are contacted if emergency care is needed.

The live animal collection is funded in a variety of ways, such as through grants and individual donations. Funds acquired for the live animal collection may be secured through the Virginia Museum of Natural History Foundation, a 501(c) 3 non-profit organization that exists to support the mission and programs of the VMNH.

III. Acquisition

Acquisition of live animals is in full compliance with all applicable laws and regulations of local, state, federal, and international authorities. Animal ambassadors that are used in education and public programs are generally acquired through proposed donations that are considered on a case-by-case basis.

Acquisition of live animals requires VMNH staff to consider multiple criteria, including: the animal's health, habitat needs, veterinary care requirements, cost of care, legal concerns, and available

staff resources. These criteria are detailed in the Live Animal Acquisition (LAA)-Consideration Form (Appendix I).

When an opportunity to acquire an animal arises an LAA-Consideration Form is completed by the Manager of DEPP, Exhibits Manager, or a Research Curator who ultimately will be responsible for the animal's care. After completion of the LAA-Consideration Form, that staff member will consult with other staff, as needed, and make a recommendation of whether or not to acquire the animal.

If recommended that the VMNH should acquire the animal, the VMNH Executive Director is asked to review and sign the LAA-Consideration form. If the Executive Director approves the acquisition, the staff member ultimately responsible for the animal's care, will, if applicable, ask the potential donor to complete a Gift-In-Kind form (Appendix II). Copies of all of these forms are provided to the VMNH Registrar.

Upon arrival at the VMNH, all live animals are placed in an appropriate enclosure and quarantined for an appropriate length of time, as determined after consultation with a licensed veterinarian and reviewing pertinent live-animal care procedures.

IV. Access and Use of Collections

The VMNH living collections are not available for loan. Animals used in exhibits are housed on display. Animals used in public programs are either housed in the Suzanne M. Lacy Education Center, or they are housed in research laboratories and office spaces that are not accessible to the public.

V. Removal and Disposal of Deceased Animals

Live animals are not accessioned (or deaccessioned) by the VMNH. Deceased animals are removed from their enclosure and frozen as soon as possible after death. They are then considered by a Research Curator or the Manager of DEPP for acquisition as VMNH specimens, subject to the review process outlined in the VMNH Collections Policies. VMNH staff will properly dispose of remains not under consideration for acquisition.

VI. Administration and Employee Responsibilities

The live animals housed in exhibits and the Suzanne M. Lacy Education Center are under the day-to-day care of the DEPP. Animals housed in research laboratories and office spaces are under the daily care of the Research and Collections division staff. All staff follow a chain-of-care in the case of unplanned absences. Outside of DEPP, the Exhibits Manager, and the Biology Research Technician are equipped to care for the collections on display in the absence of DEPP staff. Animals housed in research laboratories and office spaces are cared for by curators, staff scientists, and research technicians. All staff responsible for animal care are trained in proper methods for care, feeding and

watering, habitat maintenance, and emergency procedures. Staff are also trained on species-specific information to share with the general public during programming.

In the event staff determines that resources are no longer available to appropriately care for a live animal, the VMNH will make every attempt to rehome it with a suitable organization.

VII. Permits, Inventory, and Annual Assessment of Resources

The state of Virginia requires a permit, issued by the Department of Wildlife Resources, to exhibit wild animals. This permit requires the signature of a certified veterinarian, as well as annual wellness checks. Permit applications are submitted annually, with updated inventories of all live animals housed at the VMNH. As part of this process, the VMNH will annually assesses the financial, physical, and human resources necessary to care for each live animal, using the Live Animal Annual Assessment Form (Appendix III).

It is the responsibility of the Manager of DEPP to maintain current state permits and update inventories as needed. The Manager of DEPP is responsible for providing a copy of all state permits to the VMNH Registrar.

VIII. Transparency and Accountability

The VMNH manages its collection of live animals in the public trust. The VMNH Policies for Live Animals, and all other documents related to live animals housed at the VMNH (e.g., Guidelines for Care and Maintenance, Appendix IV) are available for public review.

The Virginia Freedom of Information Act (FOIA), located in § 2.2-3700 et seq. of the Code of Virginia, guarantees citizens of the Commonwealth and representatives of the media access to public records held by public bodies, public officials, and public employees. Citizens have the right to request and/or receive copies of public records, and to request that any charges for the requested records be estimated in advance. The VMNH is legally obligated to comply with all FOIA requests, if the request is for existing documents and the records are identified with “reasonable specificity.”

LIVE ANIMAL ACQUISITION - CONSIDERATION FORM

Date: _____

Name of Source (Seller or Person/Institution Making Offer to Donate) _____

_____

Email Address: _____

Phone Number(s): _____

Has the animal(s) been seen in person by VMNH Staff? Yes No
Has the animal(s) been formally offered to the VMNH? Yes No
Or, is this a pre-offer review? Yes No

TYPE OF ANIMAL(S):

_____ Invertebrate
_____Arthropod (insects, arachnids, crustaceans, myriapods)
_____Mollusk (chitons, snails, bivalves, squids, octopuses)
_____Annelid (earthworms, leeches)
_____Cnidarians (hydras, jellyfishes, sea anemones, corals)

_____Amphibian
_____Reptile
_____Fish (circle one): freshwater saltwater

PRICE, QUANTITY, AND PHYSICAL CONDITION: (Be as accurate as possible.)

Sales price (if applicable) and quantity of each type of animal being offered, include size of the animal:

HABITAT:

Are there any supplies being donated or sold with the animal? YES NO
If yes, please describe and provide sales price, if applicable:

Is there any equipment being donated or sold with the animal? YES NO
If yes please describe and provide sales price, if applicable:

21 Starling Avenue, Martinsville, VA 24112, **T.** 276 634 4141 **F.** 276 634 4199 **E.** information@vmnh.virginia.gov **W.** www.vmnh.net

Virginia Museum of NATURAL HISTORY
IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

HEALTH:

Does the animal show signs of illness? _____YES _____NO SOME:_____

When was the last time it was seen by a vet? _____

How old is the animal? _____

Are quarantine facilities available? _____YES _____NO

LEGALITIES:

Does the source (owner) have all necessary permits and any other paperwork (e.g. sales documentation) for each animal? _____YES _____NO SOME:_____

If not, how was it acquired? _____

When was the animal acquired? _____

Are there any legal restrictions to consider (i.e., endangered, threatened)? (list all concerns):

FUTURE NEEDS:

SUPPLIES AND EQUIPMENT:

1. Are there any supplies that will need to be purchased? _____YES _____NO
   If yes, please describe and include estimated cost:

2. Is there any equipment that will need to be purchased? _____YES _____NO
   If yes please describe and include estimated cost:

CARE: What food will the animal need?

VET SERVICES: Describe anticipated veterinary care needs:

STAFF RESOURCES: Estimate how much time for care is needed weekly?

What is the projected annual cost of food and supply needs?

Supplies/Equipment:
Food:
Vet Services:
Total Annual Cost Projected:

21 Starling Avenue, Martinsville, VA 24112, **T.** 276 634 4141 **F.** 276 634 4199 **E.** information@vmnh.virginia.gov **W.** www.vmnh.net

What is the projected annual staff time needed to provide proper care?

POTENTIAL DISPLAY, EDUCATIONAL, AND PROGRAMMING USE:
List any benefit having this animal will provide to enhance educational and programming at the VMNH:

GENERAL COMMENTS ON ACQUISITION: (Pros and Cons)

ACCEPTANCE OR DENIAL by the VMNH staff member responsible for the care of animal(s) noted on this form (e.g., DEPP Manager, Exhibits Manager, Research Staff).

RECOMMEND TO ACCEPT: _____YES _____NO

VMNH Staff: _____ Date: _____
Signature

_____
Printed Name and Title

EXECUTIVE DIRECTOR ACCEPTS: _____YES _____NO

Executive Director: _____ Date: _____
Printed Name and Signature

Potential Donor/Seller offering the animal notified of decision:
_____YES Date Notified: _____

If animal is accepted, please complete a Gift in Kind form and provide copies of all documentation to the museum registrar.

21 Starling Avenue, Martinsville, VA 24112, **T.** 276 634 4141 **F.** 276 634 4199 **E.** information@vmnh.virginia.gov **W.** www.vmnh.net

APPENDIX II. Gift-In-Kind Form

GIFT-IN-KIND FORM

Date(s) Item(s) Donated: _____

Item(s) Received From (Donor's Name): _____

Donor's Address:

Donor's Phone #: _____

Donor's Tax Identification Number: _____(Only if value claimed for tax deduction purposes.)

Item(s) for (VMNH Recipient): _____ Department: _____
(Printed name and Title)

Quantity and Type/Description of Item(s) [e.g., supplies, equipment, specimens(s)]:
Note that "specimen(s)" includes donated live animal(s) and the progeny of said specimen(s).

Total Value* of Donated Item(s): $_____

Means of Valuing (e.g., fair market value): _____

** In accordance with the Tax Reform Act of 1984, it is the responsibility of the Donor to obtain any appraisals necessary for donated property claimed as charitable deductions.*

By signing this document, the Donor indicates they have the right to transfer said item(s), such item(s) being free and clear of all encumbrances. The Donor transfers the item(s) noted on this document, which shall constitute an irrevocable and unconditional gift of same by the Donor to The Virginia Museum of Natural History, including all rights, title, and interest in and to the above item(s) absolutely and forever.

Signature of Donor: _____ Date: _____

Signature of VMNH Recipient: _____ Date: _____
Signature and Printed Name/Title

Original form should be given to the museum registrar for the museum's permanent files.

APPENDIX III. Live Animal Annual Assessment Form (Front of Form)

LIVE ANIMAL ANNUAL ASSESSMENT FORM

Date: _____

TYPE OF ANIMAL(S):

_____ Invertebrate
_____Arthropod (insects, arachnids, crustaceans, myriapods)
_____Mollusk (chitons, snails, bivalves, squids, octopuses)
_____Annelid (earthworms, leeches)
_____Cnidarians (hydras, jellyfishes, sea anemones, corals)
_____Amphibian
_____Reptile
_____Fish (circle one): freshwater saltwater

QUANTITY AND PHYSICAL CONDITION: (Be as accurate as possible.**)**
Quantity and size of the animal(s):

HEALTH:
Does the animal show signs of illness?_____YES _____NO SOME:_____
When was the last time it was seen by a vet? _____
How old is the animal? _____
How long has the animal been at VMNH:_____

Other comments/considerations:

NEEDS WITHIN THE NEXT YEAR:

SUPPLIES AND EQUIPMENT:
1. Are there any supplies that will need to be purchased? _____YES _____NO
   If yes, please describe and include estimated cost:

2. Is there any equipment that will need to be purchased? _____YES _____NO
   If yes, please describe and include estimated cost:

APPENDIX III. Live Animal Annual Assessment Form (Back of Form)

NEEDS - CONTINUED:

CARE: What food will the animal need and what is the estimated cost?

VET SERVICES: Describe anticipated veterinary care needs:

STAFF RESOURCES: Estimate how much time for care is needed weekly:

What is the projected total cost of vet care, food, and supplies over the next year?

What is the projected total amount of staff time necessary over the next year?

Other comments/considerations:

POTENTIAL DISPLAY, EDUCATIONAL, AND PROGRAMMING USE:
List any benefits this animal provides to enhance educational and/or programming at VMNH:

GENERAL COMMENTS ON RETAINING THIS ANIMAL AT THE VMNH: (Pros and Cons)

ANNUAL ASSESSMENT COMPLETED by the VMNH staff member responsible for the care of animal(s) noted on this form (e.g., DEPP Manager, Exhibits Manager, Research Staff).

RECOMMEND TO RETAIN: _____YES _____NO

VMNH STAFF:_____ Date: _____
Signature

_____
Printed Name and Title

EXECUTIVE DIRECTOR ACCEPTS: _____YES _____NO

Executive Director: _____ Date: _____
Printed Name and Signature

Please provide copies of all permits to the VMNH registrar.

APPENDIX IV. Guidelines for Care and Maintenance

Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research, Second Edition. 2004. Revised by the Herpetological Animal Care and Use Committee (HACC) of the American Society of Ichthyologists and Herpetologists. https://static1.squarespace.com/static/618bf11a71fcdf5398996eda/t/618fbed9a68bdd5cbcc95f78/1636810457669/guidelines_herps_research_2004.pdf

Guidelines for Use of Fishes in Research. 2013. UFR (Use of Fishes in Research) Committee, American Fisheries Society, Bethesda, Maryland. https://static1.squarespace.com/static/618bf11a71fcdf5398996eda/t/618fbed1f40e6c713dfa71ee/1636810449675/asf-guidelines-use-of-fishes-in-research-2013.pdf

Guidelines for Care of Invertebrates, as provided on 2 January 2023 by staff of the Cincinnati Zoo and Botanical Garden (see following pages).

NEW APPLICATION

AS RESEARCH ASSOCIATE

Dr. Paul Sattler

I have reviewed the information submitted for Dr. Paul Sattler and have indicated his/her recommendation as Research Associate for the Virginia Museum of Natural History.

Signature of approval/date

23 Apr. 2026

Dr. Kal Ivanov

4/23/2026

Dr. Adam Pritchard

4/23/26

Dr. Hayden Bassett

23 April 2026

Dr. Collin VanBuren

Marshall Boyd
Virginia Museum of Natural History
21 Starling Ave.
Martinsville, VA 24112
Marshall.boyd@vmnh.virginia.gov

22 December 2025

Virginia Museum of Natural History
21 Starling Ave.
Martinsville, VA 24112

To Whom It May Concern,

I am writing to express my full support for the application of Dr. Paul Sattler to become a Research Associate at the Virginia Museum of Natural History. For more than 40 years, Dr. Sattler has been a professor of biology at Liberty University with more than 50 publications during that time. Dr. Sattler is anticipated to retire from Liberty University but is interested in utilizing the Virginia Museum of Natural History facilities to continue his work in partnership with the museum itself, local universities, and conservation societies.

In addition to a passion for the herpetofauna of Virginia, Dr. Sattler has supported many students dating back to his days at Texas Tech University. At Texas Tech, he served as a professor and lab manager for biology, biochemistry, zoological anatomy, and genetics courses. He is anticipated to continue utilizing those skills with the specimens and technology housed at the Virginia Museum of Natural History. With Dr. Sattler as a Research Associate, his continued work could provide a research portal not currently represented within the vertebrate zoology department along with a newly developed collaborative connection to Liberty University itself. Dr. Sattler has seen and contributed to the Herpetology collections within the VMNH through his research either at Liberty University or through the Virginia Herpetological Society for many years. His close relationship with Dr. Jason Gibson of Averette University (also of the Virginia Herpetological Society) could allow the opportunity for students studying coursework with Dr. Gibson to then apply their skills with Dr. Sattler here at the VMNH while contributing to ecological research on the herpetofauna of Virginia.

I sincerely believe that Dr. Sattler would make an excellent Research Associate for the Virginia Museum of Natural History by utilizing his expertise, research efforts, and extensive background to contribute to the museum's mission.

Sincerely,

Marshall Boyd

Vertebrate Zoology Research and Collections

Virginia Museum of Natural History

LIBERTY
UNIVERSITY.

Department of Biology & Chemistry

December 18, 2025

Bord of Trustees
Research and Collections Committee
Virginia Museum of Natural History
Martinsville, Virginia

Dear Sirs:

At the end of June 2025 I will be retiring from Liberty University's Biology Department after a tenure of 40 years. Since moving to Lynchburg in 1985 I have been interested in salamander research. My first project in Virginia was to establish the ranges of and the contact zone between the Northern and Southern Two-lined Salamanders using protein electrophoresis. I found the contact zone was approximately 100 km north of where the Field Guides indicated. That work was published in Banisteria. With Jason Gibson, I am currently working on a book "The Amphibians of Virginia" to mirror Joseph Mitchell's "The Reptiles of Virginia". My current research is centered on trying to determine the ranges in Virginia of salamanders which have recently been split from *Desmognathus fuscus* and *Plethodon wehrlei*. I have been using DNA sequences to verify species identity from the field since the morphology of the different species is quite similar.

With Jason Gibson, I have briefly worked with the Museum's herpetology collection, taking measurements on specimens for our book. I would like to request being granted a Research Associate position with the Museum. It would be convenient to have greater access to the herpetology collection and the DNA lab for our continuing work with amphibians.

I am also the editor of the Virginia Herpetological Society's journal Catesbeiana, and curator of the VHS's digital archive. The archive currently has over 800 entries, mostly of digital photos and sound recordings which are vouchers for new county and city distribution records. It might be nice to work with your staff to integrate our archive into or separate from the digital photo depository which I understand the Museum has begun. I am interested in a closer working relationship with the Museum's herpetology collection and I hope you will give my request for a Research Associate position consideration.

Sincerely yours,

Paul Sattler

Paul Sattler, Ph.D.

address 1971 University Boulevard
Lynchburg, VA 24506-8001 | phone 434-582-2209 | web www.liberty.edu

Curriculum Vitae
Paul Sattler

Born: Toledo, Ohio
Marital Status: Happily Married, with four grown children
Local Address: 1134 Ardmore Dr.
Lynchburg, VA 24501

Education: B.S. in Biology – The University of Toledo
M.S. in Zoology- Miami University
Ph.D. in Biology – Texas Tech University

Employment:

1974. Lab Assistant at Miami University, teaching freshman-level biology labs.

1978. Teaching Assistant at Texas Tech University, teaching freshman-level biology labs and upper-level labs in plant systematics. Summer internship in the herpetology section of the Texas Tech University Museum (1977).

1983. Biology Instructor and Chair of General Studies at College of the Southwest, Hobbs, NM. Taught a wide variety of biology courses and chaired a department of four full-time and numerous part-time faculty. Was responsible for preparing teaching schedules and hiring part-time faculty.

1985. Postdoctoral position at the Livestock Insects Laboratory, Kerrville, Texas. Set up and ran an electrophoretic lab to investigate biological control methods for ticks.

1990. Associate Professor of Biology at Liberty University. Taught courses in General Biology, Genetics, Cell Biology, Biochemistry, and Vertebrate Natural History.

1990-2010 Professor and Chair of the Department of Biology and Chemistry at Liberty University. Taught Foundations of Biology, Genetics, and Vertebrate Natural History. Chaired a department of 21 full-time faculty. Supervised the budget, faculty hiring, curriculum development, class schedule preparation, and faculty evaluations. 2000-2003 chaired Faculty Senate Undergraduate Curriculum Committee. Strategic Planning Committee member in 2001, 2002 and 2004.

2010 – Present Professor of Biology at Liberty University. Taught Principles of Biology I, Herpetology, and Vertebrate Natural History. Supervised labs for Principles of Biology I.

Publications:

Sattler, P.W. and S.I. Guttman. 1976. An electrophoretic analysis of

Thamnophis sirtalis from Western Ohio. Copeia 1976:352-356.

Sattler, P.W. and J.S. Mecham. 1979. Gene duplication at an isocitrate dehydrogenase locus in *Scaphiopus*. Journal of Herpetology 70:352-353.

Sattler, P.W. 1980. Genetic relationships among selected species of North American *Scaphiopus*. Copeia 1980:605-610.

Sattler, P.W. 1985. Introgressive hybridization between the spadefoot toads *Scaphiopus bonbifrons* and *S. multiplicatus*. Copeia 1985:324-332.

Sattler, P.W. and L.R. Hilburn. 1985. A program for calculating genetic distance, and its use in determining significant differences in genetic similarity between two groups of populations. J. Heredity 76:400.

Hilburn, L.R. and **P.W. Sattler**. 1986. Are tick populations really less variable And should they be? Heredity 57:113-117.

Sattler, P.W., L.R. Hilburn, R.B. Davey, J.E. George, and J.B.R. Avalos. 1986. Genetic similarity and varability between natural populations and laboratory colonies of North American *Boophilus* (Acari: Ixodidae). J. Parasitology 72:95-100.

Sattler, P.W., L.R. Hilburn, and R.B. Davey. 1986. Linkage relationships among twelve enzyme loci in cattle fever ticks of the genus *Boophilus*. J. Heredity 77:119-120.

Hilburn, L.R. and **P.W. Sattler**. 1986. Electrophoretically detectable protein variation in natural populations of the lone star tick, *Amblyomma americanum*. Heredity 56:67-74.

Ghitea, O. and **P. Sattler**. 1990. The distribution and identification of two-lined salamanders in Virginia. Catesbeiana 10:11-20.

Kramer, P.N., N. Reichenbach, M. Hayslett, and **P. Sattler**. 1993 Population dynamics and conservation of the Peaks of Otter salamander, *Plethodon hubrichti*. J. Herpetology 27:431-435.

Sattler, P. and N. Reichenbach. 1998. The effects of timbering on *Plethodon hubrichti:* Short-term effects. Journal of Herpetology 32:399-404.

Gibson, J.D. and **P. Sattler**. 2004, Herpetofaunal Biodiversity of the Rice Center for Environmental Life Sciences, Charles City County, Virginia. Catesbeiana 24:47-58.

Gibson, J.D. and **P. Sattler**. 2006. Observations of intradermal trombiculid mite larvae in two species of salamanders in Virginia. Banesteria 27:49.

Sattler, P., and **J. D. Gibson.** 2007. Opportunistic Anuran Surveys in Southeastern Virginia: Looking for Oak Toads, but finding.....Spadefoots! Catesbeiana 27: 314.

Gibson, J.D. and **P. Sattler** 2007. Herpetological Records from the First Annual Herp Blitz at Fairy Stone State Park and Fairystone Farms Wildlife Management Area. Catesbeiana 27(1):15-23.

Sattler, P and J.D. Gibson. 2010. Smith Mountain Lake State Park Survey: Scarlet Kingsnake Blitz. Catesbeiana 30:11-22.

J.D. Gibson and **P. Sattler**. 2010. Lampropeltis calligaster rhombomaculata:

Field Note. Catesbeiana 30:26.

Sattler, P. and J.D. Gibson. 2010 Thamnophis sirtalis: Field Note. Catesbeiana 30:27.

J.D. Gibson and **P. Sattler**. 2010. Lithobates spenocephalus: Field Note. Catesbeiana 30:30-31.

Sattler, P. and J.D. Gibson. 2010. Blue Ridge Scout Reservation Surveys, Resource Ranble I, II and III 2007-2009. Catesbeiana 58-72.

J.D. Gibson and **P. Sattler**. An unusual breeding event in an urban park in Danville, Virginia with specific notes on the Eastern Spadefoot (*Scaphiopus holbrookii*). Catesbeiana 73-81.

J.D. Gibson and **P. Sattler**. 2010. *Hemidactylium scutatum:* Field Note. Catesbeiana 30:91.

Sattler, P. and J.D. Gibson. 2012. Sixth Annual HerpBlitz: Survey of Hungry Mother State Park. Catesbeiana 32:3-16.

J.D. Gibson and **P. Sattler**. 2012. *Heterodon platirhinos*: Field Note. Catesbeiana 32:26.

Sattler, P. 2012. *Pseudemys rubiventris*: Field Note. *Catesbeiana* 32:34.

Sattler, P. and G. Sattler. 2012. Virginia valeriae pulchra: Field Note. Catesbeiana 32:37-38.

Sattler, P. 2012. *Tantilla cornata*: Field Note. Catesbeiana 32:91-92.

Sattler, P. 2012. *Hemidactylium scutatum*: Field Note. Catesbeiana 32:97.

Sattler, P. and L. Mendoza. 2013. Survey of the Shenandoah River State Park. Catesbeiana 33:11-21.

J.D. Gibson and **P. Sattler**. 2016. Records of Amphibians and Reptiles from Breaks Interstate Park, Dickenson County, Virginia. Catesbeiana 36(1): 3-20.

Sattler, P. and J.D. Gibson. 2016. A Herpetological Survey of James River State Park. Catesbeiana 36(1): 21-34.

J.D. Gibson and **P. Sattler**. 2016. El Nino and December Herp Activities. Catesbeiana 36(2):64-71.

Sattler, P. and J.D. Gibson. 2016. Rock Castle Gorge Bioblitz. Catesbeiana 36(2):72-79.

Sattler, P. and J.D. Gibson. 2017. Eleventh Annual HerpBlitz: Survey of Reptiles and Amphibians at Stewart's Creek Wildlife Management Area, Carroll County, Virginia. Catesbeiana 37(2):90-98.

Sattler, P. 2017. *Virginia valeriae*: Field Note. Catesbeiana 37:150.

Sattler, P. and Jason Gibson. 2018. Results of the twelfth Annual HerpBlitz: Hidden Valley Wildlife Management Area. Catesbeiana 38(2): 104-111.

Sattler, P., N. Chandler and C. Williams. 2018. Tantilla coronate: Field Note. Catesbeiana 38(2):119.

Jason Gibson, **Paul Sattler** and Matthew Becker. 2019. Results of the thirteenth Annual HerpBlitz: The Cedars Natural Area Preserve, Lee County, Virginia.

Catesbeiana 39(2): 57-69.

Kleopfer, J.D., Joseph C. Mitchell, **Paul W. Sattler**, and Susan H. Watson. 2020. A guide to the Salamanders of Virginia. Special Publication Number X, Virginia Department of Game and Inland Fisheries. Richmond, VA 76 pp.

Sattler, P. and T. Brophy. 2020. Distribution, Hybridization, and Taxonomic Status of Two-lined Salamanders (*Eurycea bislineata* complex) in Virginia and West Virginia. Banisteria. 53:28-36.

Jason Gibson, **Paul Sattler** and Kory Steele. 2020. Newport News BioBlitz (Herp Results). Catesbeiana 40(1): 52-66.

Marcus Ross and **Paul Sattler**. 2020. *Hyla versicolor* (Gray Treefrog): Field Note.

Catesbeiana 40(1): 69

Paul Sattler and Jason Gibson. 2020. Results of the Fourteenth Annual HerpBlitz:

Featherfin Wildlife Management Area. Catesbeiana 40(1):23-29.

Jason Gibson and **Paul Sattler**. 2020. Natural History Notes of the Anurans of White Oak Mountain Wildlife Management Area. Catesbeiana 40(1):30-46.

Jason Gibson and **Paul Sattler.** 2020. The Phenotype of the Eastern American Toad in the Southwestern Piedmont of Virginia. Catesbeiana 40(2):109-123.

Jason Gibson and **Paul Sattler**. 2021. Natural History Notes on the Salamanders of White Oak Mountain Wildlife Management Area. Catesbeiana 41(1): 21-31.

Jason Gibson and **Paul Sattler**. 2021. Fifteenth Annual HerpBlitz: Re-survey of Mattaponi Wildlife Management Area. In Press. Catesbeiana 41(2).

Jason Gibson and **Paul Sattler.** 2022. Sixteenth Annual HerpBlitz: Survey of Doe Creek Wildlife Management Area. Catesbeiana 42(2):41-50.

Paul Sattler, Cheyenne Brooks and Jordan Tennis. 2024. *Pseudotriton ruber nitidus* (Blue Ridge Red Salamander). County Record. Catesbeiana 44(1):30.

Joshua Sorenson and **Paul Sattler**. 2024. *Trachemys scripta elegans* (Red-eared Slider). County Record. Catesbeiana 44(2): 117

Paul Sattler and Jordan Whitt. 2024. *Pseudotriton ruber nitidua.* (Blue Ridge Red Salamander. County Record. Catesbeiana 44(1):31-32.

Sattler, Paul and Jason Gibson. 2024. Five years of Opportunistic Surveys in Sussex County, Virginia 2020-2024. Catesbeiana 44(2):76-105.

Jason Gibson, Marshall Boyd, Nicholas Breen, **Paul Sattler**, Aubrey Hendrickson Stanley, Emma Divinski, and Arianna Kuhn. 2025. Survey of Amphibians and Reptiles at Staunton River State Park and Staunton River Battlefield State Park, Halifax County, Virginia. Catesbeiana 45(2):56-77.

Jason Gibson, **Paul Sattler** and Adam Priestley. 2025. Seventeenth Annual

HerpBlitz: Survey of Kirkham's Farm, Prince George County, Virginia. Catesbeiana 45(2): 78-95.

Professional Memberships:

Virginia Herpetological Society
Virginia Natural History Society

Professional Activity:

Virginia Herpetological Society – President 1996-97, editor of journal Catesbeiana 1990-1998 and 2008-Present, Secretary/Treasurer 2001-2008.

Grants and Awards:

1993 – 2015 – Grant from the US Forest Service to study the effects of Timbering on the endemic salamander *Plethodon hubrichti*. About $80,000 over 12 years of study.

2020 – Liberty University PRI Grant for the Molecular Genetic Analysis of Salamanders. $7473

References:

Dr. Matthew Becker
Liberty University
1971 University Blvd.
Lynchburg, Virginia 24515
434-582-7627
mbecker5@liberty.edu

Jason Gibson
Patrick and Henry College
STEM Division
Martinsville, Virginia 24112
434-709-0111
Frogman31@gmail.com

J.D. Kleopfer
State Herpetologist
Virginia Department of Wildlife Resources
3801 John Tyler Memorial Highway
Charles City, Virginia 23030
804-829-6508
john.kleopfer@dwr.virginia.gov

Kyle Harris
Liberty University
1971 University Blvd.
Lynchburg, Virginia 24515
434-582-7705
kjharris@liberty.edu

NEW APPLICATION

AS RESEARCH ASSOCIATE

Kevin Bezy

I have reviewed the information submitted for Kevin Bezy and have indicated his/her recommendation as Research Associate for the Virginia Museum of Natural History.

Signature of approval/date

K. Ivanov 23 Apr 2026

Dr. Kal Ivanov

4/23/2026

Dr. Adam Pritchard

4/23/26

Dr. Hayden Bassett

23 April 26

Dr. Collin VanBuren

Virginia Museum of
NATURAL HISTORY
IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

16 May 2026

Dear VMNH R&C Committee,

I write this letter in strong support of the nomination of Dr. Kevin Bezy as a Research Associate of the Virginia Museum of Natural History. Kevin has a Ph.D. in Educational Leadership and Policy Study from Virginia Tech, is a Virginia Master Naturalist, and has over four decades of teaching experience. In addition, he has held adjunct appointments at Virginia Tech and Ferrum College, and was Principal of the Gereau Center for Applied Technology and Career Exploration in Franklin County.

Dr. Bezy has worked closely with VMNH staff for many years in various capacities. When staff shortages occur, Kevin has stepped in to the museum's science education programming as a part-time employee. The museum's education efforts have run smoothly thanks to Kevin's willingness to help when needed. Not only is he an experienced science instructor, he brings other experiences to bear including his qualifications as a Leave No Trace instructor, a Scouting leader, and certification in Save Our Streams monitoring.

Kevin has a long history of accomplishment. While Principal at the Gereau Center, he started online testing for all 8th graders, wrote the school's first faculty handbook, and was Project Director for the development of a LEED Platinum building that serves as a teaching experience for engineering students. Dr. Bezy has professional publications in science education, and recently served as Head Instructor at the Camp Strake, the National Camping School in Texas.

The long list of experiences, accomplishments, certifications, and education qualify Dr. Kevin Bezy for VMNH Research Associate status. I look forward to his continued collaboration with the museum and its staff. If I can provide further information, please let me know.

Sincerely,

Joe B. Keiper, Ph.D.
Executive Director

21 Starling Avenue, Martinsville, VA 24112 T. 276 634 4141 F. 276 634 4199 E. information@vmnh.virginia.gov W. www.vmnh.net

85 Orchard Avenue
Rocky Mount, VA 24151
March 6, 2026

Ben Williams
Virginia Museum of Natural History
21 Starling Avenue
Martinsville, VA 24112

Dear Ben,

I am writing to inquire about the possibility of an adjunct at the Virginia Museum of Natural History (VMNH). You can see from my curriculum vitae I have extensive experience in education, the evaluation of science education, and career education. After I retired from public education, I joined the Southwestern Piedmont chapter of the Virginia Master Naturalists, which VMHN sponsors. Several years ago, Jordan Brim asked me to help with the Home School Science Academy. For a few months, I was a substitute teacher at the academy due to a teacher's departure. I also co-chair two committees of the Southwestern Piedmont chapter, membership, and basic training, with two of your educators.

For my service as an adjunct, I would like to continue helping with the science academy. Being an adjunct will make this a little more formal and official. You may also have other thoughts on how I can help you. Having a PhD in education would diversify your current list of adjuncts, most of whom are science professionals. I am not asking for a salary; this would be a volunteer arrangement.

How does this help me? When I retired, I struggled for a while, wanting a sense of purpose. My involvement with the Master Naturalists and the VMNH has filled that void. As a retired educator, I need to continue teaching and contributing. Your education department has made me feel welcome and useful. I would not deny that there is a sense of prestige in being connected with your museum. This arrangement has been mutually beneficial to the education department and me.

Thanks for considering my application. Let me know if you want to discuss this with me.

Sincerely,

Kevin G. Bezy, PhD
bezy@vt.edu
540-420-0624

KEVIN G. BEZY

85 Orchard Avenue
Rocky Mount, Virginia 24151
Phone: (540) 483-7706
Cell: (540) 420-0624
Email: bezy@vt.edu

QUALIFICATIONS

I am an organized person with the skills to develop and implement programs that meet the needs of the population served. I use data to identify the organization's needs and set goals that can be assessed with data to evaluate progress toward the goals. I can stay focused and possess a good sense of "follow through." The organization's mission and vision govern my daily actions and decisions.

ASSESSMENTS

NTE Scores: Communication Skills 94%ile; General Knowledge 94%ile; Professional Knowledge 98%ile
Principal's Assessment Center: Strengths in all areas of assessment

EDUCATION

1972-1976 BA in Classics and Philosophy, Duquesne University, Pittsburgh, Pennsylvania
1986-1988 MA in Educational Administration, Virginia Polytechnic Institute and State University, Blacksburg, VA
2008-2011 Ph. D. in Educational Leadership and Policy Studies, Virginia Polytechnic Institute and State University

CERTIFICATIONS

Virginia Postgraduate Professional License with endorsements in Latin PREK-12, Mathematics, Administration and Supervision PREK-12 (current)
Virginia Division Superintendent License
Equine Management Certificate from Patrick & Henry Community College
New York State School Administration/Supervisor Certificate
Certified Virginia Master Naturalist
Leave No Trace Level 2 Instructor
Save Our Streams Monitor Certification, Isaak Walton League of America

EMPLOYMENT

2019 Virginia Department of Education
- Office of School Quality, Approved Personnel (part-time)
  Monitoring school improvement plans of struggling schools

2020 Adjunct Professor, Ferrum College
- Supervisor of student teachers

2018 & 2020 Adjunct Professor, Virginia Polytechnic Institute and State University,
- Theories of Educational Administration

2013-2019 Associate Principal, Franklin County High School (enrollment over 2000 students)
- Assist the principal in the duties and responsibilities of administering the school
- Evaluate Science, Foreign Languages, and several physical education teachers
- Created a coaches' evaluation instrument

- Hear first appeal of discipline decisions
- Reorganized the Crisis Management Handbook
- Conducted a formal observation of all non-continuing contract teachers (over 60 teachers)
- Edit the school's printed documents, such as the handbooks and Program of Studies
- Build the master schedule
- Evaluated and redistributed duties of secretaries
- Created and taught the one-semester, dual enrollment course *College Success Skills* for Virginia Western Community College to high school seniors.

2003-2013 Principal, The Gereau Center for Applied Technology and Career Exploration

- Started online testing for all 8th-grade students
- Installed ActivBoards, a plotter, and twin large-screen TVs for the commons
- Outfitted the Arts and Media modules with Apple platform machines
- Organized SOL and STEM-based curriculum guides for the career exploration modules
- Wrote the school's first faculty handbook
- Edited a technology handbook for all staff
- Oversaw the installation of 2 solar water heaters, solar school zone lights, two wind towers, Weatherbug station, and Solar lighting
- Project Director for planning, constructing, and directing the Center for Energy Efficient Design, a zero energy use PassivHaus and LEED Platinum building containing classroom space and residential displays
- Led the school to the 2012 USED Green Ribbon Schools designation, 2012 Virginia Naturally Designation, 2012 Go Beyond Organization Award, and the 2012 Go Beyond New Building Award

1997-2003 Instructional Administrator, Franklin County High School

- Evaluated and supervised the Science, Mathematics, and Music Departments;
- Interviewed prospective staff members;
- Attended job fairs and recruitment efforts on behalf of the school system;
- Administered the school's academic teams;
- Represented the school on the Board of Directors for the Piedmont District;
- Build the master schedule;
- Analyzed the enrollment to utilize staff more effectively;
- Improved the Trade and Industry curriculum to include more students,
- Started a club for minority males,
- Published the Faculty Handbook, Student Handbook, and school newsletter,
- Raised Earth Science SOL scores from 69% to the 80's%

1991-1997 Non-Instructional Building Administrator, Franklin County High School

- Established the Site-Based Management Team;
- Evaluated the Foreign Language, Art, Music, and Mathematics Departments;
- Administered the budget for the Law Building Office and several academic departments;
- Starter for the Track Team;
- Administered the student database;
- Created the New Teacher program;
- Instituted standardized Spanish I and II exams;
- Raised Governor's Physical Fitness pass rate from 16% to 29%

1977-1991 Teacher, Franklin County High School

- Taught Latin, world history, mathematics, and philosophy;
- Coached track and Field;
- Sponsored the Latin Club;

- Organized and Chaperoned various field trips;
- Teacher Expectations Student Achievement (TESA) Trainer;
- Coordinated the School Improvement program;
- Instituted the Latin Honor Society

1976-1977 Assistant Manager, Gateway Fruit Company, Pittsburgh, Pennsylvania

- Stocking; Receiving supplies; supervising employees; Cashier

PUBLISHED WORKS

Bezy, K. (1990). State standards fuel innovation and collaboration. *The High School Magazine*, 7(4), 5-7.

Bezy, K. (2001). Assumptions for success, *NewsLeader*, 48(5), 10.

Bezy, K., & Makolandra, J. (2009, July 3). *Spiritual and Ethical Leadership*. Retrieved from the Connexions Web site: http://cnx.org/content/m26889/1.1/

Makolandra, J., Bezy, K., Delp, C., Bizzell, B., Overfelt, C., Jones, F., Womack, J., Hutton, N., Jones, A., Wood-Setzer, G., Williams, S., Leonard, N., Nicely, K., Wright, L., Pennington, R., & Richardson, T. (2009, July 8). *21st Century Theories of Education Administration.* Retrieved from the Connexions Web site: http://cnx.org/content/col10727/1.1/

ACTIVITIES AND HONORS

2025 – Save Our Streams Monitor Certification, Isaak Walton League of America
2024 – present – Reservation Program Committee Head, Blue Ridge Scout Reservation
2024 – present - Volunteer and substitute teacher for the science homeschool program at the Virginia Museum of Natural History
2024 & 2025 – Summer Camp on site Adviser , Blue Ridge Mountains Council, Scouting America
2024- present - Southwest Piedmont Chapter, Virginia Master Naturalist, Membership committee Co-chair
2023 – Leave No Trace Level 2 Instructor
2023 – Leave No Trace Level 1 Instructor
2023 - Present - Southwest Piedmont Chapter, Virginia Master Naturalist, Basic Training Co-chair
2023, 2024, 2025, 2026 – Ecology Head Instructor at National Camping School, Camp Strake, TX
2021 - present – Franklin County Project Discovery Board Member
2022 - Outdoor Skills Instructor at National Camping School, Camp Strake, TX
2021 – Outdoor Skills Instructor at National Camping School, The Summit Bechtel Reserve, WV
2020 – Completed training (7 hours) for the Franklin County Public School Title IX Team
2019 – Completed training to be a Virginia Master Naturalist
2016 - 2025 – VASSP Liaison to the Virginia Student Councils Association
2016-2019 – VASSP Region 6 Director
2012–present - Executive Board member of the Blue Ridge Mountains Council, Boy Scouts of America, Roanoke, VA
2011–2017 - Virginia Foundation for Educational Leadership, Inc., Secretary
2011-2016 –Virginia Foundation for Educational Leadership, Inc., Trustee
2009-2010 – VASSP President
2008-2009 – VASSP President-Elect
2006-2012 – VASSP Executive Committee
2006-2008 – Section 7A Associate Adviser, Order of the Arrow
2003-2008 – VASSP Board Member, Region 6 Director
2002 & 2006 – Ecology Instructor at National Camping School, Camp Cherokee
2000-2003 - VASSP Board Member, Assistant Principal at Large
2000 – McDonald's/NASSP Virginia Assistant Principal of the Year
2000 - The George C. Carr Award for contributions to youth leadership development, Boy Scouts of America, Roanoke, VA
1997 - The Founders' Award, Order of the Arrow, Boy Scouts of America, VA

1995-2007 - Executive Board member of the Blue Ridge Mountains Council, Boy Scouts of America, Roanoke, VA
1994 - Saint George Award, Diocese of Richmond, Richmond
1993-2004 - Lodge Adviser of Tutelo Lodge, Order of the Arrow, Boy Scouts of America, Roanoke, VA
1992 - Silver Beaver Recipient, Blue Ridge Mountains Council, Boy Scouts of America, Roanoke, VA
1980-present - Sacristan at Francis of Assisi Parish, Rocky Mount, VA
1980 – Headed the Steering Committee to establish Francis of Assisi Parish

NEW APPLICATION

AS RESEARCH ASSOCIATE

Dr. Ben Kligman

I have reviewed the information submitted for Dr. Ben Kligman (Dr. Adam Pritchard, Sponsor) and have indicated his/her recommendation as Research Associate for the Virginia Museum of Natural History.

Signature of approval/date

29 July 2026

Dr. Kal Ivanov

29 July 2026

Dr. Adam Pritchard

30 July 2026

Dr. Hayden Bassett

29 July 2026

Dr. Jackson Roberts

29 July 2026

Dr. Collin VanBuren

Virginia Museum of
NATURAL HISTORY
IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

Virginia Museum of Natural History
21 Starling Avenue
Martinsville, VA 24112
276-634-4173

June 4, 2026

To Whom it May Concern:

I write this letter to recommend Dr. Benjamin Kligman for the role of research associate with the Virginia Museum of Natural History. Dr. Kligman is a world-renowned researcher on the ecology and evolution of vertebrates in the early Mesozoic Era (Triassic—Jurassic), with extensive experience in both field and collections-based research on the fossil record of Virginia. His current role is Professor of Practice and Curator of Vertebrate Paleontology at the University of Texas at Austin. He has actively contributed important new fossils to the VMNH, including the first extensive record of Jurassic specimens from the Commonwealth, including plants, invertebrates, fishes, and reptiles. He and I are actively collaborating on this particular collection and additional field collections of vertebrates from the Triassic of Ashland, Virginia. Extending to him the role of research associate at the VMNH will formalize contributions to collections and VMNH-affiliated research projects.

Dr. Kligman's primary work focuses on the evolution of tetrapods (amphibians, reptiles, mammals) across the Triassic and early Jurassic periods. His work has contributed important and very early records of lizards, frogs, and caecilians. He has also had broader impacts on our understanding the dynamics of extinctions within the Triassic Period, tying those events to major climatic changes. The fossils he has contributed to the VMNH from the Jurassic Period come from Prince William County, and they represent some of the only North American records from immediately after the mass extinction that ended the Triassic Period. Some of the key reptile specimens he has donated to include tantalizing teeth that may be the first body fossils of dinosaurs from the Commonwealth.

Ben has many ongoing projects using VMNH collections, currently involving loans of many specimens from the Jurassic site, all of which are part collaborations with myself and VMNH-affiliated paleontologists. On top of his scientific acumen, Ben is also generous and kind member of the paleontological community who will be supportive to VMNH-affiliated researchers and students in their careers. Conferring this status on Dr. Kligman will expand our collaborative network to the major paleontological museum at the University of Texas at Austin. Owing to the excellent ongoing collaborations and the potential for many more in the future, I heartily recommend Dr. Kligman for research associate status with the VMNH. I would be happy to take any questions on this recommendation.

Sincerely,

Adam Pritchard
Associate Curator of Paleontology
Virginia Museum of Natural History

adam.pritchard@vmnh.virginia.gov
Phone: 301-788-8443

THE UNIVERSITY OF TEXAS AT AUSTIN
TEXAS VERTEBRATE PALEONTOLOGY COLLECTIONS

3333 Read Granberry Trl, PRC 6 • Austin, Texas 78758 • (512) 232-5514

Dear Virginia Museum of Natural History,

I am writing to apply for research associate status at the VMNH. I am a vertebrate paleontologist whose research program focuses primarily on the Triassic and Jurassic vertebrate fossil record of North America. My research is driven by collecting new evidence from the field to address spatiotemporal, anatomical, and evolutionary gaps in the vertebrate fossil record from this timeframe, shedding light on major questions of vertebrate evolution. Over the past 8 years I have been studying and leading fieldwork in Late Triassic and Early Jurassic Newark Supergroup strata of Virginia during my PhD at Virginia Tech, my postdoctoral fellowship at the Smithsonian National Museum of Natural History, and in my time as professor and curator at University of Texas at Austin. I have authored a series of peer-reviewed studies and conference presentations on Triassic fossils from Virginia (see bibliography below), including on specimens in the VMNH collection. Fossil data from Virginia forms a core part of my research program, and in my new capacity as a professor at UT Austin I intend to supervise students in research projects focused on the fossil record of Virginia to address important questions about vertebrate evolution.

I was the recipient of the Pete Henika Memorial Fund in 2022 to fund my fieldwork in the Early Jurassic Waterfall Formation at Bull Run Mountains Natural Area Preserve, Prince William County Virginia. This resulted in the discovery and collection of a sequence of fossil sites with exceptional preservation of plants, invertebrates, fish, and tetrapods from the immediate aftermath of the end-Triassic mass extinction, providing a rare window onto the ecological recovery from this transformative event. All specimens resulting from fieldwork funded by that grant have been accessioned into the VMNH collections, providing the most complete record of Waterfall Formation paleontology in any museum globally. I continue to do regular fieldwork in the Waterfall Formation, and important specimens (e.g., dinosaur material) will be reposited at the VMNH given its significance to the natural history of Virginia. Dr. Adam Pritchard is a collaborator on the Waterfall Formation Project, and he and I will be co-leading publications announcing the discovery of the first dinosaur body fossils from the state of Virginia. I am also collaborating with Dr. Adam Pritchard on fieldwork and research of the Late Triassic paleontology of the Taylorsville Basin in and around Richmond Virginia. Our fieldwork has identified a series of new fossil sites, including sites producing discoveries like exceptionally preserved insects and small reptile remains; all of these specimens are reposited at the VMNH.

I am requesting research associate status at the VMNH to facilitate my access to VMNH collections, which I need to do regularly to continue my research program. This status would also facilitate my future collaborative research with Dr. Adam Pritchard, both in our shared fieldwork missions throughout the state, and in coauthored publication of our research on Virginia's fossil record.

Sincerely,

Dr. Ben T. Kligman
Curator in Charge of the Texas Vertebrate Paleontology Collection, Jackson School Museum of Earth History, University of Texas at Austin
Professor of Practice, Earth and Planetary Sciences Department, University of Texas at Austin
Phone: 610-324-9969

Email: ben.kligman@austin.utexas.edu

Bibliography of peer reviewed publications and conference presentations by Dr. Ben Kligman on the fossil record of Virginia:

Kligman, B., Olsen, P., Villari, J., Hughes, K., Montenegro, J., Pritchard, A., Reichgelt, T., Park Boush, L. (2023) A new lacustrine margin vertebrate assemblage from the Early Jurassic Waterfall Formation of Virginia, U.S.A., *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.

Kligman, B., and Sues, H-D. (in press) New data on the prozostrodontian cynodonts *Dromatherium* and *Microconodon* from the Upper Triassic of eastern North America, *Earth and Environmental Science Transactions of the Royal Society of Edinburgh.*

Kligman, B., Sues, H-D., Melstrom, K. (2024). A new lizard-like reptile with unusual mandibular neurovasculature from the Upper Triassic of Virginia, *Journal of Vertebrate Paleontology.* https://doi.org/10.1080/02724634.2024.2353636

Olsen, P., **Kligman, B.,** Villari, J., Silbeck, B., Hughes, K., and Pritchard, A. (2023) Latest Triassic and Early Jurassic continental vertebrate assemblages of the Culpeper Rift Basin (Virginia, USA) in high-resolution temporal and environmental perspectives, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.

Pritchard, A., **Kligman, B.,** Olsen, P., Stevens, M., Sues, H-D., Treado, L., Weems, R., LeTourneau, P. (2023) A new vertebrate-bearing locality from the Carnian (Late Triassic) of Virginia (Newark Supergroup, Taylorsville Basin), *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.

Stack, J., **Kligman, B.**, and Strickland, M. (2026) A bristle-nosed Jurassic ray-finned fish (Actinopterygii) bears true dermal odontodes on its snout, *Journal of Anatomy*. https://doi.org/10.1111/joa.70152

Sues, H-D., **Kligman, B.** (2021). A new lizard-like reptile from the Upper Triassic (Carnian) of Virginia and the Triassic record of lepidosauromorphs, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2021.1879102

Ben T. Kligman Curriculum Vitae

Current Affiliation: Assistant Professor of Practice & Curator-in-Charge
Vertebrate Paleontology, Jackson School Museum of Earth History
The University of Texas at Austin, PRC 6
3333 Read Granberry Trail,
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Email: ben.kligman@austin.utexas.edu
Institution profile: https://www.jsg.utexas.edu/researcher/ben_kligman/
ResearchGate: https://www.researchgate.net/profile/Ben-Kligman
Google Scholar: https://scholar.google.com/citations?user=Bs0KcL0AAAAJ&hl=en&oi=ao
ORCID iD. https://orcid.org/0000-0003-4400-8963

POSITIONS AND EDUCATION

Nov. 1, 2023-Jan. 31, 2026	Peter Buck Postdoctoral Fellow, National Museum of Natural History, Smithsonian Institution
2019-2023	GS-5 Science Technician (Paleontology), Petrified Forest National Park
2018- 2023	PhD, Virginia Tech Department of Geosciences, Interfaces of Global Change Fellow
2014-2018	Seasonal Paleontology Intern, Petrified Forest National Park
2012-2016	B.A., Integrative Biology, University of California Berkeley

PEER-REVIEWED PUBLICATIONS

*Indicates mentored undergraduate

34. Stack, J., **Kligman, B.,** Stocker, M., Stricklin, M., and Marsh, A. (in review) The oldest freshwater teleost reframes the early history of the most speciose vertebrate clade, *Royal Society Proceedings B.*
33. **Kligman, B.**, Melstrom, K., Jenkins, K., Marsh, A., Stocker, M., and Sues, H-D. (in prep) Hyper-diverse tropical Triassic lepidosaur fossils reveal squamate origins, *Journal TBD.*
32. **Kligman, B.**, and Sues, H-D. (in review) New data on the prozostrodontian cynodonts *Dromatherium* and *Microconodon* from the Upper Triassic of eastern North America, *Earth and Environmental Science Transactions of the Royal Society of Edinburgh.*
31. Stack, J., **Kligman, B.**, and Strickland, M. (in review) A Jurassic ray-finned fish (Actinopterygii) with teeth on its snout, *Journal of Anatomy.*
30. *McKinney, I., Marsh, A., and **Kligman, B.** (in review) Exemplary excretions: a close examination of a Late Triassic coprolite and possible evidence of cannibalism in parasuchid phytosaurs, *Journal of Vertebrate Paleontology.*
29. **Kligman, B.,** Olsen, P., and Villari, J. (in prep) Field Guide to the geology and paleontology of the Early Jurassic (Hettangian) Waterfall Formation, Culpeper Rift Basin, Northern Virginia, *Journal TBD.*
28. Gee, B., **Kligman, B.**, and Marsh., A (in prep) More than metoposaurids: A diverse equatorial temnospondyl assemblage from the Late Triassic of North America, *Journal of Vertebrate Paleontology.*
27. *Sodano, M., **Kligman, B.**, Stocker, M., Marsh, A., Parker, W., Pritchard, A., Gonçalves, G., and Nesbitt, S. (2025) Gross morphology and histological analysis of manual unguals of Drepanosauromorpha (Sauropsida: Diapsida) and description of a new taxon from the Sonsela Member of the Chinle Formation (Late Triassic) of the southwestern United States, *The Anatomical Record.* https://doi.org/10.1002/ar.70057
26. **Kligman, B.,** Whatley, R., Ramezani, J., Marsh, A., Lyson, T., Fitch, A., Parker, W., and Behrensmeyer, A. (2025) Unusual bonebed reveals a vertebrate community with pterosaurs and turtles in equatorial Pangaea before the end-Triassic extinction, ***Proceedings of the National Academy of Sciences.*** https://doi.org/10.1073/pnas.2505513122
25. Shubert, A., Marsh, A., and **Kligman, B.** (2025) A diverse assemblage of tanystropheid archosauromorphs from the continental interior of Late Triassic Pangea includes a new taxon (*Akidostropheus oligos* gen. et sp. nov.), *Palaeodiversity.* https://doi.org/10.18476/pale.v18.a5
23. Foffa, D., Dunne, E., Chiarenza, A., Wynd, B., Farnsworth, A., Lunt, D., Valdes, P., Nesbitt, S., **Kligman, B.**, Marsh, A., Parker, W., Butler, R., Fraser, N., Brusatte, S., Walsh, S., and Barrett, P. (2025) Climate drivers and paleobiogeography of lagerpetids and early pterosaurs, ***Nature Ecology and Evolution.*** https://doi.org/10.1038/s41559-025-02767-8
22. Reyes, W., Parker, W., Marsh, A., and **Kligman, B.** (2025) Cranial anatomy, intraspecific variation, and positional variation within *Calyptosuchus wellesi* (Pseudosuchia: Aetosauria) based on new specimens from the Upper Triassic Chinle Formation (Adamanian, early middle-Norian) of Petrified Forest National Park, Arizona, USA., *Journal of Paleontology.* https://doi.org/10.1017/jpa.2024.42
21. Goldsmith, E., Bartha, D., **Kligman, B.**, Nesbitt, S., Marsh, A., Parker, W., and Stocker, M. (2024) Osteohistology of a diminutive phytosaur femur and implications for the evolution of growth dynamics in Archosauria, *Journal of Anatomy.* https://doi.org/10.1111/joa.14185
20. Burch, H., *Eddins, H-M., Stocker, M., **Kligman, B.**, Marsh, A., Parker, W., and Nesbitt, S. (2024) A small venomous reptile from the Late Triassic (Norian) of the southwestern United States, *PeerJ.* https://doi.org/10.7717/peerj.18279

19. **Kligman, B.**, Sues, H-D., Melstrom, K. (2024). A new lizard-like reptile with unusual mandibular neurovasculature from the Upper Triassic of Virginia, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2024.2353636
18. Marsh, A., **Kligman, B.**, Reyes, W., and Rountrey, A. (2024) Reidentification of the holotype specimen of *Trilophosaurus buettneri* Case, 1928 (Archosauromorpha, Trilophosauridae) from the Upper Triassic of Crosby County, Texas, U.S.A. *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2024.2317396
17. Parker, W., Marsh, A., Smith, M., **Kligman. B.,** Wagner, D., Varela, P., Boudreau, D. (2024). New perspectives on NPS paleontological resource stewardship: Scientific, curatorial, and educational outcomes at Petrified Forest National Park, *Park Stewardship Forum*. https://doi.org/10.5070/P540162930
16. Foffa, D., Nesbitt, S., **Kligman, B.,** Butler, R. and Stocker, M. (2023). New specimen and redescription of *Anisodontosaurus greeri* (Moenkopi Formation: Middle Triassic) and the spatiotemporal origins of Trilophosauridae. *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2023.2220015
15. **Kligman, B.** (2023). Rise of present-day tetrapods in the paleotropics of Late Triassic equatorial Pangaea: new insights from microvertebrate data, *PhD Dissertation*, Virginia Tech, pp. 740. http://hdl.handle.net/10919/115000
14. *Mellett, M. P., **Kligman, B.,** Nesbitt, S. J., & Stocker, M. R. (2023). Masticatory mechanisms, dental function, and diet in Triassic trilophosaurids (Reptilia: Allokotosauria). *Palaeodiversity*. https://doi.org/10.18476/pale.v16.a4
13. **Kligman, B.,** Gee, B., Marsh, A., Nesbitt, S., Smith, M., Parker, W., Stocker, M. (2023) Triassic stem caecilian supports dissorophoid origin of living amphibians, ***Nature***. https://doi.org/10.1038/s41586-022-05646-5
12. Sues, H.-D., **Kligman, B.,** Schoch, R. (2022) An unusual *Colognathus*-like reptile form the Middle Triassic (Ladinian) Erfurt Formation of Germany, *Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen*. https://doi.org/10.1127/njgpa/2022/1046
11. Marsh, A., Parker, W., Nesbitt, S., **Kligman, B.**, Stocker, M. (2022) *Puercosuchus traverorum* n. gen. and sp.: a new malerisaurine azendohsaurid (Archosauromorpha: Allokotosauria) from a monodominant bonebed in the Chinle, Formation (Late Triassic, Norian) of Arizona, *Journal of Paleontology*. https://doi.org/10.1017/jpa.2022.49
10. Parker, W., Nesbitt, S., Marsh, A., **Kligman, B.,** Bader, K. (2021) First occurrence of *Doswellia kaltenbachi* (Archosauriformes) from the Late Triassic (middle Norian) Chinle Formation of Arizona and its implications on proposed biostratigraphic correlations across North America during the Late Triassic, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2021.1976196
9. **Kligman, B.,** McClure, W., Korbitz, M., Schumacher, B. (2021) New sphenodontian (Reptilia: Lepidosauria) from a novel Late Triassic palaeobiota in western North America sheds light on the earliest radiation of herbivorous lepidosaurs, *Journal of Paleontology*. https://doi.org/10.1017/jpa.2021.22
8. Sues, H-D., **Kligman, B.** (2021). A new lizard-like reptile from the Upper Triassic (Carnian) of Virginia and the Triassic record of lepidosauromorphs, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2021.1879102
7. **Kligman, B.,** Marsh, A.D., Sues, H-D., Sidor, C.A. (2020). A new non-mammalian eucynodont from the Chinle Formation (Triassic: Norian), and implications for the early Mesozoic equatorial cynodont record, *Biology Letters*. https://doi.org/10.1098/rsbl.2020.0631
6. #Jenkins, X.A., Pritchard, A.C., Marsh, A.D., **Kligman, B.,** Sidor, C.S., and Reed, K.E. (2020). Using Manual Ungual Morphology to Predict Substrate Use in the Drepanosauromorpha and the Description of a New Species, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2020.1810058
5. Marsh, A., Smith, M., Parker, W., Irmis, R., and **Kligman, B.** (2020). Skeletal anatomy of *Acaenasuchus geoffreyi* Long and Murry, 1995 (Archosauria: Pseudosuchia) and its implications for the origin of the aetosaurian carapace, *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2020.1794885
4. **Kligman, B.,** Marsh, A., Nesbitt, S., Parker, W., Stocker, M. (2020). New trilophosaurid species demonstrates a decline in allokotosaur diversity across the Adamanian-Revueltian boundary in the Late Triassic of western North America. *Paleodiversity*. https://doi.org/10.18476/pale.v13.a3
3. Stocker, M., Nesbitt, S., **Kligman, B.,** Paluh, D., Blackburn, D., Marsh, A., Parker, W. (2019). The earliest equatorial record of anurans from the Late Triassic of Arizona. *Biology Letters*. https://doi.org/10.1098/rsbl.2018.0922
2. **Kligman, B.,** Marsh, A., Parker, W. (2018). First records of *Palacrodon* (Diapsida) from the Late Triassic (Chinle Formation: Norian) of southwestern North America, and biogeographic implications. *Acta Palaeontologica Polonica*. https://doi.org/10.4202/app.00426.2017
1. **Kligman, B.,** Parker, W., Marsh, A. (2017). First Record of *Saurichthys* (Actinopterygii) from the Late Triassic (Chinle Formation: Norian) of Western North America. *Journal of Vertebrate Paleontology*. https://doi.org/10.1080/02724634.2017.1367304

PRESENTATIONS (with published abstracts)

*Indicates talk, †Indicates poster presentation, #Indicates mentored undergraduate

66. ***Kligman, B.**, Smith, M., and Marsh, D. (2026) Best Practices for Sampling Microvertebrate Bonebeds, *Association for Materials and Methods in Paleontology*, Bismarck, North Dakota.

65. *Kligman, B., Whatley, R., Ramezani, J., Marsh, A., Lyson, T., Fitch, A., Parker, W., and Behrensmeyer, A. (2025) Microvertebrate bonebeds with radioisotopic dates - bridging the gap innon-marine paleocommunities preceding the end-Triassic extinction, *Society of Vertebrate Paleontology*, Birmingham, UK.
64. *Armour Smith, E., **Kligman, B.**, and Marsh, A. (2025) Microvertebrate assemblage from a Late Triassic bonebed in Arizona shows faunal diversity at the Adamanian-Revueltian boundary, *Society of Vertebrate Paleontology*, Birmingham, UK.
63. *Burch, H., Stocker, M, Dineen, A., Foffa, D., Kryder, S., Keeble, E., **Kligman, B.**, Marsh, A., Parker, W., and Nesbitt, S. (2025) Composition, Trophic interactions, and community structure of a diverse Upper Triassic microvertebrate assemblage from the Chinle Fm of northeastern Arizona, USA, *Society of Vertebrate Paleontology*, Birmingham, UK.
62. *Foffa, D., Nesbitt, S., Stocker, M., **Kligman, B.**, Marsh, A., Parker, W., and Butler, R. (2025) The fauna of the Moenkopi Formation and the diversification of low-latitude Triassic communities, *Society of Vertebrate Paleontology*, Birmingham, UK
61. †Jasicki-Velin, D., Stocker, M., Flis, C., Marsh, A., **Kligman, B.**, Nesbitt, S. (2025) Diagnostic features of fossilized shark cartilage from the Upper Triassic, *Society of Vertebrate Paleontology*, Birmingham, UK.
60. *Pittinger, D., Marsh, A., **Kligman, B.**, Haridy, Y., (2025) Caudal autotomy in tanystropheids (Reptilia, Tanysauria): The first known occurrence of tail shedding in archosauromorphs, *Society of Vertebrate Paleontology*, Birmingham, UK.
59. *Nolan, M., **Kligman, B.**, Scher, M., Marsh, D., Reid, R., Gill, B. (2025) Community ecology from the Upper Triassic Chinle Formation, southwestern USA: insights from coprolite δ13Corg and δ15N stable isotope geochemistry *Geological Society of America*, San Antonio, TX.
58. *Kligman, B., Whatley, R., Ramezani, J., Marsh, A., Lyson, T., Fitch, A., Parker, W., and Behrensmeyer, A. (2025) Fossils Bridge Late Triassic Gap in the Non-Marine Vertebrate Paleocommunity Record and pose New Questions about the End-Triassic Extinction, *Geological Society of America*, San Antonio, TX.
57. †Pittinger, D., Marsh, A., **Kligman, B.**, and Haridy, Y. (2025) Caudal autotomy in tanystropheids (Reptilia, Tanysauria): The first known occurrence of tail-shedding in archosauromorphs, *Western Association of Vertebrate Paleontologists*, Mesa, AZ.
56. †Goldsmith, E., Barta, D., Nesbitt, S., **Kligman, B.**, Marsh, A., Parker, W., Stocker, M. (2024) Osteohistology of a tiny phytosaur femur: implications for the evolution of early archosaur growth, *Society of Vertebrate Paleontology*, Minneapolis, MN.
55. †*McKinney, I., Marsh, A., and **Kligman, B.** (2024) Exemplary excretions: an examination of a Late Triassic coprolite and possible evidence of cannibalism in parasuchid phytosaurs, *Society of Vertebrate Paleontology*, Minneapolis, MN.
54. *Melstrom, K., **Kligman, B.**, Marsh, A., Nesbitt, S., Stocker, M., and Irmis, R. (2024) Dental complexity disparity of Late Triassic reptiles resembles extant Lepidosauria, *Society of Vertebrate Paleontology*, Minneapolis, MN.
53. *Kligman, B., Marsh, A., Melstrom, K., and Stocker, M. (2024) Exceptionally diverse lepidosaur assemblage from the Late Triassic of equatorial Pangaea fills gap in squamate origins, *Society of Vertebrate Paleontology*, Minneapolis, MN.
52. *Melstrom, K., **Kligman, B.**, Marsh, A., Nesbitt, S., Stocker, M., and Irmis, R. (2024) Dental complexity disparity of Late Triassic reptiles approaches that of extant Lepidosauria, *North American Paleontological Congress*, Ann Arbor, MI.
51. *Kligman, B., Marsh, A., Melstrom, K., and Stocker, M. (2024) Exceptionally diverse Late Triassic lepidosaur assemblage illuminates squamate origins, *North American Paleontological Congress*, Ann Arbor, MI.
50. *Marsh, A., **Kligman, B.**, Smith, M. (2024) Rethinking the Triassic evolution of vertebrate groups through refined microvertebrate sampling methods, *Western Association of Vertebrate Paleontologists*, Santa Ana, CA.
49. †Goldsmith, E., Barta, D., Nesbitt, S., **Kligman, B.**, Marsh, A., Parker, W., Stocker, M. (2024) Osteohistology of a tiny phytosaur femur: implications for the evolution of early archosaur growth, *Society of Integrative and Comparative Biology Annual Meeting*, Seattle.
48. †Olsen, P., **Kligman, B.**, Villari, J., Silbeck, B., ‡Hughes, K., and Pritchard, A. (2023) Latest Triassic and Early Jurassic continental vertebrate assemblages of the Culpeper Rift Basin (Virginia, USA) in high-resolution temporal and environmental perspectives, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
47. *Foffa, D., Nesbitt, S., Stocker, M., **Kligman, B.**, Marsh, A., Parker, W., Butler, R. (2023) Ecological recovery and diversification of early Mesozoic, low latitude vertebrate assemblages, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
46. †‡Havlat, D., Jenkins, K., **Kligman, B.** (2023) Morphology, minerology, and implications of vertebrate coprolites from the Late Triassic Chinle Formation of Arizona, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
45. †Pritchard, A., **Kligman, B.**, Olsen, P., Stevens, M., Sues, H-D., Treado, L., Weems, R., LeTourneau, P. (2023) A new vertebrate-bearing locality from the Carnian (Late Triassic) of Virginia (Newark Supergroup, Taylorsville Basin), *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
44. †*Kligman, B.**, Olsen, P., Villari, J., ‡Hughes, K., ‡Montenegro, J., Pritchard, A., Reichgelt, T., Park Boush, L. (2023) A new lacustrine margin vertebrate assemblage from the Early Jurassic Waterfall Formation of Virginia, U.S.A., *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
43. *Pugh, W., ‡Sodano, M., **Kligman, B.**, Stocker, M., Nesbitt, S. (2023) Claws in the caudals; unique morphology among drepanosaurid (diapsida) caudal elements, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.
42. †Marsh, A., Beightol, C., Toth, N., **Kligman, B.**, Parker, W. (2023) Systematic paleontological inventory of newly acquired lands at Petrified Forest National Park Reveals Unprecedented diversity of Late Triassic Terrestrial Vertebrates, *Society of Vertebrate Paleontology Annual Meeting*, Cincinnati.

Conference, Casper, Wyoming

38. [†#] Patellos, E., **Kligman, B.**, Marsh, A., Stocker, M., Parker, W., Nesbitt, S. (2022) Quantifying variation in the marginal dentition of a malerisaurine (Allokotosauria) from the Upper Triassic Chinle Formation of Arizona shows statistically distinct morphologies within different tooth-bearing elements, *Society of Vertebrate Paleontology Annual Meeting*, Toronto.
37. [†#] Sodano, M., **Kligman, B.**, Stocker, M., Marsh, A., Parker, W., Nesbitt, S. (2022) a new drepanosaur ungual morphotype from the Sonsela Member of Petrified Forest National Park, *Society of Vertebrate Paleontology Annual Meeting*, Toronto.
36. ***Kligman, B.** Marsh, A., Parker, W., Nesbitt, S., Reyes, W., Gee, B., Smith, M., Sues, H-D., Stocker, M. (2022) New Late Triassic paleocommunity recalibrates the rise of the modern tetrapod evolutionary fauna, placing new constraints on early Mesozoic extinctions, *Society of Vertebrate Paleontology Annual Meeting*, Toronto.
35. *Nesbitt, S., Stocker, M., **Kligman, B.**, Angielczyk, K., Sidor, C., Hoffman, D., Smith R. (2022) A rare microvertebrate assemblage from the Triassic Manda Beds of Tanzania fills in the record of vertebrate recovery after the end-Permian Extinction, *Society of Vertebrate Paleontology Annual Meeting*, Toronto.
34. [†]Kwiatkowski, C., Keating, K., Henderek, R., Romaine-Elkhadri, Y., Harries, E., Szydlo, M., Hardes, J., Gillette, D., Thomson, T., Milner, A., Marsh, A., Miller, A., and **Kligman, B.** (2022) A treasure trove of Triassic tracks: reptile footprint fossils in the Moenkopi Formation revealed by two scientists in parks surveys at Wupatki National Monument, north-central Arizona, *Geological Society of America Annual Meeting*, Denver.
33. [†]Reyes, W. A., **Kligman, B. T.**, Marsh, A. D., & Parker, W. G. (2022) new specimens of *Calyptosuchus wellesi* (Pseudosuchia: Aetosauria) from the Upper Triassic Chinle Formation of Petrified Forest National Park, Arizona, provide new details on the cranial anatomy and intraspecific variation of the taxon, *Geological Society of America Annual Meeting*, Denver.
32. [†]Reyes, W. A., **Kligman, B. T.**, Marsh, A. D., & Parker, W. G. (2022) New insight on the pelvic anatomy of the aetosaur *Calyptosuchus wellesi* (Archosauria: Pseudosuchia) based on a new specimen from the Chinle Formation within Petrified Forest National Park, Arizona, *11th Annual Jackson School Research Symposium*, Austin, Texas.
31. ***Kligman, B.**, Stocker, M., Marsh, A., Smith, M., Gee, B., Nesbitt, S., Parker, W. (2021), New Late Triassic stem-caecilian from southwestern North America strengthens evidence for lissamphibian monophyly, and illuminates the anatomical, functional, and geographic origins of living caecilians, *Society of Vertebrate Paleontology Annual Meeting*.
30. [†]Marsh, A., Parker, W., Nesbitt, S., **Kligman, B.**, Stocker, M., [#]Patellos, E. (2020) a new species of carnivorous azendohsaurid (archosauromorpha) from the Chinle Formation of Petrified Forest National Park, *Society of Vertebrate Paleontology Annual Meeting* (virtual).
29. [†]Nolan, M., **Kligman, B.**, Yang, Y., Gill, B., Reid, R. (2021) Investigation of carbon and nitrogen stable isotopes in a vertebrate coprolite assemblage from the Late Triassic of continental equatorial Pangaea, *Geologic Society of America Annual Meeting*, Portland, Oregon.
28. ***Kligman, B.**, Stocker, M., Marsh, A., Nesbitt, S., Parker, W. (2021) A fossil amphibian from the Late Triassic of Arizona illuminates the origins of living caecilians, *Geoscience Student Research Symposium*, Blacksburg, Virginia.
27. [†#]Patellos, E., Marsh, A., **Kligman, B.**, Stocker, M., Parker, W., Nesbitt, S. (2021) Characterization of dental variation in a reptile (azendohsaurid) from the Triassic Chinle Formation of Arizona, *Geoscience Student Research Symposium*, Blacksburg, Virginia.
26. [†#]Sodano, M., **Kligman, B.**, Stocker, M., Marsh, A., Parker, W., Pritchard, A., Nesbitt, S. (2020) Unique internal and external morphologies of manus unguals of Drepanosauromorpha indicate the clade was abundant in the western United States during the Upper Triassic, *Society of Vertebrate Paleontology Annual Meeting*, Cleveland, Ohio.
25. *Smith, M.E., **Kligman, B.**, Yarborough, V., Marsh, A.D. (2020) Screenwashing, micropreparation, and micro CT: a case study of how preparation workflow facilitates research on microfossil localities at Petrified Forest National Park, *Society of Vertebrate Paleontology Annual Meeting*, Cleveland, Ohio.
24. [†#]Patellos, E.A., **Kligman, B.**, Marsh, A.D., Stocker, M.R., Parker, W.G., Nesbitt, S.J. (2020) Characterization of dental variation in a small azendohsaurid from the Chinle Formation (Upper Triassic) of Arizona indicates the abundance of azendohsaurids in Adamanian biozone assemblages, *Society of Vertebrate Paleontology Annual Meeting*, Cleveland, Ohio.
23. [†#]Mellett, M.P., **Kligman, B.**, Marsh, A.D., Parker, W.G., Nesbitt, S.J., Stocker, M.R. (2020) Dental microwear analysis of two new species of trilophosaurids from the Chinle Formation (Arizona) reveals diversity of herbivorous diets within the clade, *Society of Vertebrate Paleontology Annual Meeting*, Cleveland, Ohio.
22. ***Kligman, B.**, McClure, W., Korbitz, M., Schumacher, B. (2020) A new sphenodontian reptile with peculiar mandibular morphology from the Upper Triassic of the Purgatoire River valley, southeastern Colorado, *Society of Vertebrate Paleontology Annual Meeting*, Cleveland, Ohio.

21. †*Mellett, M.P., **Kligman, B.,** Stocker, M.R., and Nesbitt, S.J. (2020) Dental Microwear Analysis of Two New Species of Trilophosaurid from the Chinle Formation (AZ), *Geoscience Student Research Symposium*, Blacksburg, Virginia.
20. †**Kligman, B.,** McClure, W., Korbitz, M., Schumacher, B. (2020). Geologic and Paleontological Survey of a Novel Triassic Basin in Colorado, and a New Species of Tusked Reptile, *Geoscience Student Research Symposium*, Blacksburg, Virginia.
19. †*Eddins, H.M.S., **Kligman, B.,** Nesbitt, S.J., Marsh, A.D., Parker, W.G; and Stocker, M.R. (2020). New Triassic Reptile Reveals Oldest Record of a Complete Envenomation Apparatus, *Society for Integrative and Comparative Biology Annual Meeting,* Austin, Texas
18. **Kligman, B.,** and Prouty, J. (2019). Dinosaurs, Volcanoes, and Supercontinents in Virginia, *Virginia Association of Science Teachers Annual Meeting*, Roanoke, Virginia
17. **Kligman, B.,** Stocker, M., Nesbitt, S., Marsh, A., and Parker., W. (2019). New Trilophosaurid Species Demonstrates Extinction-Driven Drop in Allokotosaur Diversity Across the Adamanian-Revueltian Biozone Boundary in the Late Triassic of Western North America, *Society of Vertebrate Paleontology Annual Meeting*, Brisbane, Australia
16. *Behrensmeyer, K., Whatley, R., Fitch, A., Parker, W., McIntire, S., Pritchard, A., **Kligman, B.,** and Cline, R. (2019) Taphonomy and Paleocommunity Reconstruction of a Pterosaur-Bearing Fossil Assemblage in the Upper Triassic of Arizona, *Society of Vertebrate Paleontology Annual Meeting*, Brisbane, Australia
15. †Bevers, J., Neff, C., Hernandez, G., Curtis, D., Fiorentino, S., Marsh, A., Smith, M., and **Kligman, B.** (2019). First two seasons surveys of Fossils from four Hemiphillian localities at Petrified Forest National Park, *Geologic Society of America Annual Meeting*, Phoenix, Arizona.
14. *Marsh, A., Smith, M., Parker, W., **Kligman, B.,** and Irmis, R. (2019). New Specimens of *Acaenosuchus geoffreyi* (Archosauria) from Petrified Forest National Park (Arizona) Support Evidence for a New Triassic Clade of Armored Pseudosuchians in North America, *North American Paleontological Convention,* Riverside, California.
13. *Parker, W., Marsh, A., **Kligman, B.,** and Beightol, C. (2019). Examining Late Triassic (Norian-Rhaetian) Terrestrial Faunal Assemblage Compositions in the Chinle Formation of Northeastern Arizona. *North American Paleontological Convention*, Riverside, California.
12. **Kligman, B** (2019). New Fossils Reveal Radiation of Small-Bodied Reptiles After End-Permian Mass Extinction. *Geoscience Student Research Symposium*, Blacksburg, Virginia.
11. *Stocker, M., Nesbitt, S., **Kligman, B.,** Paluh, D., Blackburn, D., Marsh, A., and Parker, W. (2019). The earliest equatorial record of anurans from the Late Triassic of Arizona. *Society of Integrative and Comparative Biology Annual Meeting*, Tampa, Florida.
10. *Marsh, A., Smith, M., Parker, W., Irmis, R., and **Kligman, B.** (2018). New Specimens of *Acaenasuchus geoffreyi* (Archosauria: Pseudosuchia) Support the Presence of a New Triassic Clade of Armored Pseudosuchians in North America. *Society of Vertebrate Paleontology Annual Meeting*, Albuquerque, New Mexico.
9. †**Kligman, B.** (2018). Sphenodontian assemblages of the Chinle Formation (Late Triassic: Norian), and their Phylogenetic, Biogeographic, and Ecological implications. *Society of Vertebrate Paleontology Annual Meeting*, Albuquerque, New Mexico.
8. ***Kligman, B.** (2018). Sphenodontian Assemblages of the Chinle Formation: Phylogenetic, Biogeographic, and Morphological Implications. *Geological Society of America 114th Cordilleran Annual Section Meeting*, Flagstaff, Arizona.
7. *Parker, W., Martz, J., Marsh, A., **Kligman, B.,** and Beightol, C. (2018). Examining Late Triassic (Norian-Rhaetian) Terrestrial Faunal Assemblage Compositions in the Chinle Formation of Northeastern Arizona; Implications for Triassic Extinction Events. *Geological Society of America 114th Cordilleran Annual Section Meeting*, Flagstaff, Arizona.
6. ***Kligman, B.** (2018). Additions to the Rhynchocephalian Fauna of the Chinle Formation (Late Triassic), and Phylogenetic, Biogeographic, and Morphological Implications. *Western Association of Vertebrate Paleontologists Annual Meeting*, St. George, Utah.
5. ***Kligman, B.,** Parker, W., and Marsh, A. (2017). Small vertebrate record provides new insights into faunal change in the late Triassic of the southwestern USA. *5th Symposium IGCP 632*, Flagstaff, Arizona.
4. *Parker, W., Marsh, A., **Kligman, B.,** Beightol, C., Gee, B., and Lessner, E. (2017). Examining Late Triassic (Norian-Rhaetian) Terrestrial Faunal Assemblage Compositions in the Chinle Formation of northeastern Arizona. *5th Symposium IGCP 632*, Flagstaff, Arizona.
3. *Marsh, A., Parker, W., **Kligman, B.,** and Lessner, E. (2017). Bonebed of a carnivorous archosauromorph from the Chinle Formation (Late Triassic: Norian) of Petrified Forest National Park. *Geological Society of America,* Seattle, Washington.
2. ***Kligman, B.,** and Pritchard, A. (2016). Earliest Stem-Squamate (Lepidosauria) from the Late Triassic of Arizona. *Society of Vertebrate Paleontology,* Salt Lake City, Utah.
1. †**Kligman, B.** (2015). A New Late Triassic Microvertebrate Fauna from the Blue Mesa Member of Petrified Forest National Park. *Society of Vertebrate Paleontology*, Dallas, Texas.

FELLOWSHIPS, GRANTS, AND AWARDS

*Indicates Principal Investigator or Co-PI, †Indicates Collaborator

2025 Smithsonian Seastrum Fund Grant ($2,000)*

2025	Smithsonian MacMillan Fund Grant ($3,481.15)*
2024-2026	Peter Buck Postdoctoral Fellowship ($140,000) *
2023-2024	Peter Buck Postdoctoral Fellowship ($70,000) *
2018-2023	Interfaces of Global Change Fellowship, Virginia Tech Global Change Center*
2022	Smithsonian Institution National Museum of Natural History ADCS Research Grant ($66,450)†
2018-2022	VT Geosciences Research Fellowship Program ($2,750) *
2022	Virginia Museum of Natural History 2022 Pete Henika Memorial Fund ($3,000) *
2019	NSF Graduate Research Fellowship Program, Honorable Mention*
2019	Burke Museum Vertebrate Paleontology Collection Grant ($1,000)*
2018	Colbert Student Poster Prize, Society of Vertebrate Paleontology ($600)*
2018	NSF Graduate Research Fellowship Program, Honorable Mention*

UNDERGRADUATE TEACHING

-Graduate Teaching Assistant for Geosciences 1054 "Age of Dinosaurs", Virginia Tech (Fall Semester 2018-2023)
-Graduate Teaching Assistant for Geosciences 2104 "Elements of Geology" Lab Section, Virginia Teach (Spring Semester 2020, 2022, 2023)
-Graduate Teaching Assistant, Geosciences 1004 "Intro to Earth Science Lecture", Virginia Tech (Fall 2019 & 2020)

FORMAL PEDAGOGICAL TRAINING

-GRAD 5004, Graduate Teaching Assistant Training Workshop (Virginia Tech, 2020)
-GRAD 5144, Communicating Science (Virginia Tech, 2021)
- FREC 5984, College Teaching in Natural Resources (Virginia Tech, 2022)

UNDERGRADUATE RESEARCH MENTORSHIP

-Michael P. Mellett (Virginia Tech), see **Peer Reviewed Publication Number 14** and **Presentations Numbers 21 and 23**
-Megan P. Sodano (Virginia Tech), see **Peer Reviewed Publication Number 27** and **Presentations Numbers 26, 37, 43**
-Xavier Jenkins (Arizona State), see **Peer Reviewed Publication Number 6**
-Isaiah T. McKinney (Virginia Tech), see **Peer Reviewed Publication Number 30** and **Presentation Number 55**
-Emilly Patellos (Virginia Tech), see **Presentations Numbers 24, 27, 30, 38**
-Hannah-Marie Eddins (Virginia Tech), see **Peer Reviewed Publication Number 20** and **Presentation Number 19**
-Katie Hughes (Virginia Tech), see **Presentation Number 44**
-Julio Montenegro (Virginia Tech), see **Presentation Number 44, 48**
-Daniel Havlat (Yale University), see **Presentation Number 48**

GRADUATE RESEARCH MENTORSHIP

-William A. Reyes (PhD at University of Texas, Austin), see **Peer Reviewed Publications Numbers 18 and 22** and **Presentations Numbers 32, 33, and 36**
-Erika R. Goldsmith (PhD at Virginia Tech), see **Peer Reviewed Publication Number 21** and **Presentations Numbers 46 and 56**
-Helen E. Burch (PhD at Virginia Tech), see **Peer Reviewed Publication Number 20**
-Issac Pugh (PhD at Virginia Tech), see **Presentation Number 43**
-Eliot Armour Smith (PhD at University of Washington), **see Presentation Number 64**

SELECT MEDIA AND ARTICLES ON KLIGMAN'S RESEARCH

2025 ***-KNAU Public Radio:*** Tiny fossils found at Petrified Forest NP reveal new dinosaur species Link
-USA Today: Pterosaur fossil discovered in Arizona's Petrified Forest National Park fills gap in record Link
-Newsweek: Tiny Flying Reptile Found in Arizona Fills 200-Million-Year Evolutionary Gap Link
-Popular Science: North American pterosaur could sit on your shoulder Link
-National Geographic: This 'ash-winged dawn goddess' is North America's newest pterosaur Link
-BBC: 200 million year-old flying reptile species found Link
-Reuters: Arizona fossils reveal an ecosystem in flux early in the age of dinosaurs Link
-Washington Post: North America's oldest pterosaur, a winged reptile, discovered in Arizona Link
-CBS News: North America's oldest known pterosaur, a flying reptile the size of a "small seagull," discovered in Arizona, researchers say Link
-Smithsonian Magazine: A Bone Bed From the Dawn of the Dinosaurs Has Revealed the Oldest Known Pterosaur Found in North America Link
-PNAS In This Issue: Late Triassic vertebrate community in equatorial Pangaea Link

-***PNAS Science Sessions Podcast:*** North America's oldest pterosaur fossil Link
-***Atlas Obscura:*** Arizona's Petrified Forest Is Changing What We Know About the Dawn of the Dinosaurs Link
2024 -***Guardian article with comments from Ben Kligman:*** Scientists discover oldest ever giant tadpole fossil in Argentina Link
2023 -***National Public Radio Weekend Edition Sunday:*** In Arizona, paleontologists are shifting their focus to microfossils Link
-***National Parks Magazine***: An unexpected find Link
-***Philadelphia Inquirer:*** Fossil guy finds 'funky worm' with a Philly hook Link
-***Paleocast Podcast episodes 151 & 152:*** Lissamphibian Origins Link
-***Dayton Daily News:*** Funky fossil: New discovery named after Ohio Players hit Link
2022 -***National Park Service:*** Outside Science (Inside Parks): Digging for Fossils at Petrified Forest National Park Link
-***Virginia Outdoors Foundation***: Spotlight on Paleontology with Ben Kligman Link
2021 -***National Park Service:*** NPS Paleontologists Discover Hidden Cradle of Tetrapod Evolution at Petrified Forest National Park, Implications for the Triassic Origins of Living Tetrapod Communities Link
2020 -***Friends of Petrified Forest National Park:*** Understanding Past Worlds Through Micro Fossils Link
-***KNAU Public Radio:*** KNAU Earth Notes, 3D Printed Microfossils Link
-***VT News***: Geosciences doctoral student discovers new species of ancient rat-like cynodont, 220 million years old Link
2018 -***Petrified Forest National Park***: Tiny Fossils Paint a Big Picture Link

INVITED PRESENTATIONS AND SEMINARS

*Indicates talk, †Indicates poster presentation

12. ***Kligman, B.** (2026, January). New paleontological discoveries from the Early Jurassic Waterfall Formation of Northern Virginia, *George Washington University Biology Seminar.*
11. ***Kligman, B.** (2025, October). North America's oldest pterosaur and other new fossils from the Triassic paleotropics of central Pangaea raise new questions about the end-Triassic extinction, *Delaware Valley Paleontological Society monthly meeting.*
10. ***Kligman, B.** (2025, April). Exploring the Triassic origins of modern tetrapods and their communities in the tropics of central Pangaea, *National Museum of Natural History Peter Buck Postdoctoral Fellowship Symposium.*
9. ***Kligman, B.** (2025, March). Searching for the hidden origins of living tetrapods in Triassic equatorial Pangaea, *Smithsonian National Museum of Natural History Volunteer Enrichment Seminar.*
8. ***Kligman, B.** (2024, September). Searching for the hidden origins of living tetrapods in Triassic equatorial Pangaea, *Atmospheric, Oceanic & Earth Sciences Seminar, George Mason University.*
7. ***Kligman, B.** (2024, March). Searching for the hidden origins of living tetrapods in Triassic equatorial Pangaea, *Geological Society of Washington.*
6. ***Kligman, B.** (2024, January). Rise of present-day tetrapod lineages and their communities in Late Triassic equatorial Pangaea, *Smithsonian National Museum of Natural History Paleobiology Seminar Series.*
5. ***Kligman, B.** (2023, November). Rise of present-day tetrapod lineages and their communities in Late Triassic equatorial Pangaea, *Jackson School of Geosciences Seminar Series.*
4. ***Kligman, B.** (2022, March). Oldest very dead weird wet animal with long body found!, *27th Annual Virginia Tech Geoscience Student Research Symposium* (Up-Goer 5 style talk).
3. ***Kligman, B.** (2021, July). Fossilized pond deposit from Petrified Forest National Park offers a rare window onto the incredible biodiversity of tropical Pangaea in the Late Triassic, *U.S. National Park Service All Geoscientists Quarterly Meeting.*
2. ***Kligman, B.** (2020, October). Microvertebrate bonebeds, and terrestrial ecosystems of the Late Triassic, *Delaware Valley Paleontological Society monthly meeting*, Philadelphia, Pennsylvania.
1. †**Kligman, B.** (2018, October). Rhynchocephalian assemblages of the Chinle Formation (Late Triassic: Norian), and their phylogenetic, biogeographic, and ecological implications. *Historic Black Colleges and Universities/ Minority Serving Institutions Research Summit*, Blacksburg, Virginia.

OUTREACH EVENTS

National Museum of Natural History Science Snacks (2025)
Virginia Museum of Natural History Dinosaur Festival (2024)
Virginia Tech Science Festival (2019, 2021 - 2023)
Petrified Forest National Park Dinosaur Day (2014-2015, 2017-2019)
Petrified Forest National Park Field Institute (2014-2015, 2017-2019, 2021-2023)
Virginia Tech Museum of Geosciences Fossil Unwrapping Night (2018-2019, 2022)

PEER REVIEWS

Journal of Vertebrate Paleontology (2021)
Proceedings of the Indian National Science Academy (2022)
Journal of Vertebrate Paleontology (2024)

Lithodendron (2024)
Science of Nature (2024)
Journal of Paleontology (2025)
Journal of Vertebrate Paleontology (2025)
Lethaia (2025)
Royal Society Open Science (2025)

DIGITAL DATABASE CONTRIBUTIONS

1. *Trilophosaurus phasmolophos* CT scan dataset and 3D models: Morphosource Project 00000C926
2. *Kataigidodon venetus* CT scan dataset and 3D models: Morphosource Project 0000C1078
3. *Vinitasaura lizae* CT scan dataset and 3D models: Morphosource Project 0000C1146
4. *Acaenasuchus geoffreyi* 3D models: Morphobank Project 3406
6. *Funcusvermis gilmorei* CT scan Data, 3D models: Morphosource Project 000382289
7. *Funcusvermis gilmorei* Phylogenetic Dataset: Morphobank Project 4166
8. *Idiosaura virginiensis* Phylogenetic Dataset: Morphobank Project 5132
9. *Idiosaura virginiensis* CT scan Data, 3D models: Morphosource Project 000592367
10. *Unusual bonebed reveals a vertebrate community with pterosaurs and turtles in equatorial Pangaea before the end-Triassic extinction.* CT scan dataset and 3D models for voucher specimens of all taxa in the PFV 393 bonebed including the new species of pterosaur. First Triassic bonebed to have a comprehensive 3D library accessible online. Morphosource Project 000649092
11. *Unusual bonebed reveals a vertebrate community with pterosaurs and turtles in equatorial Pangaea before the end-Triassic extinction.* Phylogenetic Dataset: Morphobank Project 5129

FIRST AID CERTIFICATIONS

1. Wilderness First Aid and Red Cross CPR Certification, current from 12/14/2025 – 12-14-2027

NEW APPLICATION

AS RESEARCH ASSOCIATE

Dr. Keiko Meshida

I have reviewed the information submitted for Dr. Keiko Meshida (Dr. Joe Keiper, Sponsor) and have indicated his/her recommendation as Research Associate for the Virginia Museum of Natural History.

Signature of approval/date

29 July 2026

Dr. Kal Ivanov

29 July 2026

Dr. Adam Pritchard

30 July 2026

Dr. Hayden Bassett

29 July 2026

Dr. Jackson Roberts

29 July 2026

Dr. Collin VanBuren

Virginia Museum of
NATURAL HISTORY
IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

2 July 2026

Research and Collections Committee
Virginia Museum of Natural History
21 Starling Avenue
Martinsville, VA 24112

Dear Dr. Nash,

I write to offer my support of the application for VMNH Research Associate Dr. Keiko Meshida, faculty at Uniformed Services University. Dr. Meshida is currently pursuing work in the evolution of vertebrate eyes and eyesight, and is collaborating closely with VMNH as she will submit a NSF grant proposal through the museum to support her work.

Keiko has articulated her desire to connect her scholarly work to the public through participation in the museum's Family Science Festivals, as well as periodic Science Saturdays. These interactions provide excellent outreach as they are intimate experiences for our guests. Through the use of diagrams, models, and dissected specimens, Dr. Meshida intends to connect people to concepts ranging from animal eyesight to evolutionary principles.

The contributions that Dr. Meshida can make to these public interactions will be valuable to the museum. A strategy staff have always ascribed to has been to ensure no two festivals look alike. Informational tables on the evolution of the vertebrate eye will certainly be new for our offerings. Her presentations can easily be slightly modified to match the theme of a festival – such as using knowledge of modern vertebrate eyes to help hypothesize capabilities of dinosaur eyesight for our annual Dinosaur Festival.

Dr. Keiko Meshida will be a welcome addition to our Research Associate roster. I look forward to a positive vote of approval by the Board of Trustees, but in the meantime if I can answer any questions please let me know.

Thank you for your consideration.

Sincerely,

Joe B. Keiper
Executive Director

21 Starling Avenue, Martinsville, VA 24112 T. 276 634 4141 F. 276 634 4199 E. information@vmnh.virginia.gov W. www.vmnh.net

July 2nd 2026

Keiko Meshida
4217 Glenrose Street
Kensington MD, 20895

Dr. Joe Keiper, Director
Virginia Museum of Natural History
21 Starling Avenue
Martinsville VA, 24112

Dear Dr. Keiper,

I am writing to express my strong interest in securing a Research Associate position at the Virginia Museum of Natural History (VMNH). My research interests focus on comparative anatomy, embryogenesis, and the phylogenetic and ecological factors that influence mammalian orbital anatomy.

I am currently preparing a grant proposal for the National Science Foundation to support my research on mammalian orbital embryogenesis and function. Specifically, I am testing the hypothesis that variations in orbital anatomy—particularly the extraocular muscles and adnexa—are functionally correlated with an animal's behavior and sensory ecology, or a combination of both phylogenetic and ecological factors.

As my proposal includes a significant educational outreach component for the general public and K-12 students, I believe the VMNH would be an ideal venue. The museum's dedication to K-12 and local student education programs aligns perfectly with my goal to create accessible, engaging science communication. I intend to submit this proposal through VMNH as Principal Investigator, allowing the funding to directly support the museum's activities as well.

I am eager to contribute to museum initiatives such as "Science Saturdays" and its festival program. I plan to use these as avenues to introduce science to the local community by demonstrating my research through actual dissected specimens, fetal samples, and documented videos of mammalian eye movements.

I have attached my CV for your reference and would welcome the opportunity to discuss how my research and outreach goals could align with the museum's mission. I look forward to hearing from you.

Sincerely,

Keiko Meshida

Keiko Meshida, PhD

Keiko Meshida, PhD

Work address: The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc./Uniformed Services University of the Health Sciences
Department of Surgery
4301 Jones Bridge Road Bethesda, MD 20814
email: keiko.meshida.ctr@usuhs.edu
km4873@yahoo.co.jp
phone: 301-300-8207

EDUCATION

PhD.	Howard University College of Medicine, Department of Anatomy
(08/2013-12/2018)	Washington, D.C.
MS	University of Tokyo School of Frontier Sciences
(04/2006-03/2008)	Tokyo, Japan
BS	Meiji University
(04/1993-03/1997)	Kanagawa, Japan

ACADEMIC POSITIONS

(07/2021-present) Instructor, Department of Surgery
Henry Jackson Foundation for the Advancement of Military Medicine, Inc., in support of Uniformed Services University of the Health Sciences, Bethesda, MD

(05/2020-06/2021) Instructor, Department of Anatomy
Howard University, College of Medicine, Washington D.C.

(05/2015-08/2019) Lab instructor/ Prosector, Graduate School of Nursing (Summer course)
Uniformed Services University of the Health Sciences, Bethesda, MD

POSTDOCTORAL TRAINING

(01/2019-05/2020) Postdoctoral Research Assistant, Department of Anatomy
Howard University College of Medicine, Washington D.C.

ADDITIONAL WORK EXPERIENCES

(02/2017-05/2018) Database Assistant, Department of Anthropology

Smithsonian National Museum of Natural History, Washington, D.C.

(08/2015-12/2016) Teaching Assistant, Department of Anatomy

Howard University College of Medicine, Washington, D.C.

(05/2015-12/2015) Prosector

Integrative Centers for Science and Medicine, Martinsville, VA

(12/2010-06/2012) Administrative Assistant

Temple University, Tokyo, Japan

(07/2008-01/2009) Museum Technician

The University Museum, University of Tokyo, Japan

(05/2005-03/2006) Museum Technician

The National Science Museum, Tokyo, Japan

(02/2004-05/2005) Intern, Department of Vertebrate Zoology

Smithsonian National Museum of Natural History, Washington D.C.

(05/2003-09/2003) Museum Technician

The National Science Museum, Tokyo, Japan

(04/1997-09/2002) Administrative Assistant

World Wide Fund for Nature, Tokyo, Japan

ACADEMIC APPOINTMENTS/AFFILIATIONS

(10/2020-present) Research Associate

(10/2016-10/2020) Research Fellow

(10/2015-10/2016) Research Associate

(10/2013-10/2015) Student Research Associate

Smithsonian National Museum of Natural History, Washington, D.C.

(12/2018-present) Member

American Association for Anatomy

(04/2021-present) Editorial Board Member

International Journal of Cadaveric Studies and Anatomical Variations

PEER REVIEWD PUBLICATIONS

- **2025** **Meshida K**, Miller E, Schmitt T, Cartoceti A, Gilland E. Split insertions of the oblique extraocular muscles in Carnivora. *The Anatomical Record*, p.1-16. (DOI: 10.1002/ar.70016)

- **2024** Wands KC, Samuel A, Sparks A, **Meshida K**, Wind G, Lashley K, Wolf K, Dau G, Kalima JB, Caitlyn C, Rasmussen A, Tang B, Granite G. Sciatic Nerve Bilateral High Bifurcation between the Two Heads of the Piriformis Muscle in a 92-year-old White Female Donor: A Case Report. *The Journal of Medical Sciences*, vol.10, 1-4.

- **2024** Julius Shepard J, Porter K, Leighton MX, Wind G, Maynes E, **Meshida K**, Lashley K, Mateo R, Dimitrakof J, Buescher T, Lenert J, Granite G. Accessory Hepatic Arteries with a Duplicated Inferior Vena Cava: Anatomical and Surgical Significance. *International Journal of Cadaveric Studies and Anatomical Variations,* vol 5, 1.

- **2023** Joanna K, **Meshida K**, Maynes E, Leighton MX, Wind, Granite G. Duplicated Inferior Vena Cava in a 69-Year-Old White Female Donor. *Anatomia*, 2023, 2(2), p.117-123. (DOI.org/10.3390/anatomia2020011)

- **2022** Granite G, Maynes E, Leighton MX, Wind G, Nesti GL, **Meshida K**. Bilateral Agenesis of the Extensor Carpi Ulnaris Muscle of a 70-Year-Old White Male Donor. *Journal of Surgery*, vol.7, 2. (DOI.org/10.29011/2575-9760.001470)

- **2022** Maynes E, **Meshida K**, Leighton MX, Wind G, Granite G. Accessory Lateral Head of the Right Gastrocnemius Muscle in a 65-year-Old White Male Donor. *International Journal of Cadaveric Studies and Anatomical Variations*. vol 3 No 1

- **2022** **Meshida K**, Lin S, Domning DP, Reidenberg JS, Wang P, Gilland E. The unique rectus extraocular muscles of cetaceans: homologies and possible functions. *Journal of Anatomy,* vol. 240: p.1075–1094. (DOI: 10.1111/joa.13628)

- **2021** Granite G, **Meshida K**, Wind G. Frequency and Clinical Relevance of the Aberrant Obturator Artery: A Cadaveric Study. In: Prime Archives in Medicine: 3rd Edition. Hyderabad, India: Vide Leaf.

- **2021** Saarinen J, Cirilli O, Strani F, **Meshida K**. Bernor RL. Testing equid body mass estimate equations on modern zebras -with implications to understanding the

American Association for Anatomy

(04/2021-present) Editorial Board Member

International Journal of Cadaveric Studies and Anatomical Variations

PEER REVIEWD PUBLICATIONS

- **2025** **Meshida K**, Miller E, Schmitt T, Cartoceti A, Gilland E. Split insertions of the oblique extraocular muscles in Carnivora. *The Anatomical Record,* p.1-16. (DOI: 10.1002/ar.70016)

- **2024** Wands KC, Samuel A, Sparks A, **Meshida K**, Wind G, Lashley K, Wolf K, Dau G, Kalima JB, Caitlyn C, Rasmussen A, Tang B, Granite G. Sciatic Nerve Bilateral High Bifurcation between the Two Heads of the Piriformis Muscle in a 92-year-old White Female Donor: A Case Report. *The Journal of Medical Sciences*, vol.10, 1-4.

- **2024** Julius Shepard J, Porter K, Leighton MX, Wind G, Maynes E, **Meshida K**, Lashley K, Mateo R, Dimitrakof J, Buescher T, Lenert J, Granite G. Accessory Hepatic Arteries with a Duplicated Inferior Vena Cava: Anatomical and Surgical Significance. *International Journal of Cadaveric Studies and Anatomical Variations,* vol 5, 1.

- **2023** Joanna K, **Meshida K**, Maynes E, Leighton MX, Wind, Granite G. Duplicated Inferior Vena Cava in a 69-Year-Old White Female Donor. *Anatomia*, 2023, 2(2), p.117-123. (DOI.org/10.3390/anatomia2020011)

- **2022** Granite G, Maynes E, Leighton MX, Wind G, Nesti GL, **Meshida K**. Bilateral Agenesis of the Extensor Carpi Ulnaris Muscle of a 70-Year-Old White Male Donor. *Journal of Surgery*, vol.7, 2. (DOI.org/10.29011/2575-9760.001470)

- **2022** Maynes E, **Meshida K**, Leighton MX, Wind G, Granite G. Accessory Lateral Head of the Right Gastrocnemius Muscle in a 65-year-Old White Male Donor. *International Journal of Cadaveric Studies and Anatomical Variations*, vol 3 No 1

- **2022** **Meshida K**, Lin S, Domning DP, Reidenberg JS, Wang P, Gilland E. The unique rectus extraocular muscles of cetaceans: homologies and possible functions. *Journal of Anatomy,* vol. 240: p.1075–1094. (DOI: 10.1111/joa.13628)

- **2021** Granite G, **Meshida K**, Wind G. Frequency and Clinical Relevance of the Aberrant Obturator Artery: A Cadaveric Study. In: Prime Archives in Medicine: 3rd Edition. Hyderabad, India: Vide Leaf.

- **2021** Saarinen J, Cirilli O, Strani F, **Meshida K**. Bernor RL. Testing equid body mass estimate equations on modern zebras -with implications to understanding the

relationship of body size, diet and habitats of Equus in the Pleistocene of Europe. *Frontiers Ecology and Evolution*, vol.9: p.1-18. (DOI: 10.3389/fevo.2021.622412)

- **2021** **Meshida K**, Lin S, Domning DP, Wang P, Gilland E. The Oblique Extraocular Muscles in Cetaceans: Overall architecture and Accessory Insertions. *Journal of Anatomy*, vol. 238, No.4: p.917–941. (DOI: 10.1111/joa.13347)

- **2020** Granite G, **Meshida K**, Wind G. Frequency and Clinical Relevance of the Aberrant Obturator Artery: A Cadaveric Study. *Diagnostics*, vol.10, No.546: p.1-21. (DOI: 10.3390/diagnostics10080546)

- **2020** Stauffer CM, **Meshida K**, Bernor RL, Granite GE, Boaz NT. Anatomy, Thorax, Pericardiacophrenic Vessels. *StatPearls*.

- **2020** **Meshida K**, Lin S, Domning DP, Reidenberg JS, Wang P, Gilland E. Cetacean Orbital Muscles: Anatomy and Function of the Circular Layers. *The Anatomical Record*. Vol.303, No.7: p.1752-1811 (DOI: 10.1002/ar.24278)

- **2019** Granite G, **Meshida K**, Wind G. Branching pattern variations of the celiac trunk and superior mesenteric artery in a 72-year-old white female cadaver. *International Journal of Anatomical Variations*, vol.12, No.4: p.55-59.

- **2019** Boaz NT, Bernor RL, **Meshida K**. Anatomy: Thorax: Collateral Intercostal Nerves and Arteries. *StatPeals*.

- **2019** Granite G, **Meshida K**, Jones S, May N. The occurrence of a middle left colic artery in a 76-year-old white male cadaver. *International Journal of Anatomical Variations*, vol.12, No.3: p.26-29.

- **2018** Granite G, **Meshida K**, Jones S. Rare Case of a Five-Branched Aortic Arch Exhibiting a Retroesophageal Right Subclavian Artery and an Accessory Left Vertebral Artery. *International Journal of Anatomical Variations*, vol.11, No.4: p.117-122.

- **2016** Bernor RL, Ataabadi MM, **Meshida K**, Wolf D. The Maragheh hipparions, late Miocene of Azarbaijan, Iran. *Palaeobio Palaeoenv*, 96: p.453-488

- **2015** Bernor RL, **Meshida K**, Sun B. Phylogenetic signatures in the juvenile skulls and cheek teeth of Pleistocene *Proboscidipparion sinense*, China, *Rivista Italiana di Paleontologia e Stratigrafia*, vol.121, No.2

PROFESSIONAL PRSENTATIONS

- **2023** **Meshida K**, Wimer H, Miller E, Gilland E. Comparative anatomy of the circular muscle layers in mammalian orbit and their possible functions. Anatomy Connected 2023 meeting. Washington, D.C.

- **2023** **Meshida K**, Gilland H. Architecture and function of orbitalis and oblique eye muscles in mammals. Anatomy Connected 2023 meeting (Oral presentation for the Morphological Science symposium, W.M. Cobb Award). Washington D.C.

- **2021** Granite G, **Meshida K**, Wind G. Frequency and Clinical Review of the Aberrant Obturator Artery: A Cadaveric Study. Experimental Biology meeting (Virtual Experimental Biology meeting 2021)

- **2019** Granite G, **Meshida K**, Jones S. Rare Case of a Five-Branched Aortic Arch Exhibiting a Retroesophageal Right Subclavian Artery and an Accessory Left Vertebral Artery. Experimental Biology meeting. Orlando, Florida.

- **2018** **Meshida K**. Comparative Anatomy of Orbital Structures in Cetaceans. Zoology Seminar. National Museum of Natural History, Smithsonian Institution. Washington, D.C.

- **2017** **Meshida K**, Lin S, Wang P, Gilland E. Comparative anatomy of extraocular muscles and orbital neurovasculature in cetaceans and other marine mammals. Society for Neuroscience Meeting 2017. Washington, D.C.

- **2017** Boaz NT, Bernor RL, **Meshida K**. Onto-Phylogenetic Dissection of the Human Neck Utilizing Soft-Embalmed Cadavers: Clinical Anatomy from a Perspective of Evolutionary Medicine. Association of Clinical Anatomists meeting. Minneapolis, MN

- **2016** Boaz NT, Bernor RL, **Meshida K**. Evo-Devo Anatomy Dissected: An Approach Using Soft Embalming that Transforms the Regional-Versus Systemic Debate. American Association of Anatomists Annual Meeting at Experimental Biology 2016 April, San Diego, CA

- **2008** **Meshida K**, Miyazaki N. Morphology of postcranial vertebrae in beaked whales (Family: Ziphiidae), The 20th conference of the Japanese Society of Fisheries Science, Shizuoka, Japan

AWARDS

External

(03/2023) Early-Career Investigator Award 2023 (W.M. Cobb Award in Morphological Sciences). American Association for Anatomy

Link to the award page
https://amasan.informz.net/informzdataservice/onlineversion/ind/bWFpbGluZ2luc3RhbmNlaWQ9ODkzNzAzNiZzdWJzY3JpYmVyaWQ9ODMzMTIxMDI5

Internal

(05/2024) Interdisciplinary Collaboration and Contributions Award
(09/2023) SPOT Award
Graduate School of Nursing, Uniformed Services University of the Health Sciences

(11/2022) Supreme Performance Award
(07/2022) Exceptional Performance Award
(05/2022) Supreme Performance Award
(02/2022) Supreme Performance Award
The Henry M. Jackson Foundation for the Advancement of Military Medicine

NEW APPLICATION

AS RESEARCH ASSOCIATE

Jeff Carpenter

I have reviewed the information submitted for Jeff Carpenter (Dr. Adam Pritchard, Sponsor) and have indicated his/her recommendation as Research Associate for the Virginia Museum of Natural History.

Signature of approval/date

29 July 2026

Dr. Kal Ivanov

29 July 2026

Dr. Adam Pritchard

30 July 2026

Dr. Hayden Bassett

29 July 2026

Dr. Jackson Roberts

29 July 2026

Dr. Collin VanBuren

Virginia Museum of
NATURAL HISTORY
IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

Virginia Museum of Natural History
21 Starling Avenue
Martinsville, VA 24112
276-634-4173

June 4, 2026

To Whom it May Concern:

I write this letter to recommend Mr. Jeffrey Carpenter for the position of research associate with the Virginia Museum of Natural History. Mr. Carpenter is an active amateur paleontologist and a major part of the northern VA paleontology community working on marine deposits in the Fredericksburg area. For the past six years, he has been an active contributor to and user of VMNH collections. Material he has donated include scientifically important advances to our understanding of reptile, bird, and fish evolution on the Virginia coast from areas and time periods previously unrepresented at VMNH. He is a conscientious and deeply invested scientist who would benefit from VMNH affiliations for his publication initiatives and his continued fieldwork in association with the museum.

Jeff's work is intensely focused on microvertebrate collections, involving sifting mud sediments from creek beds throughout northern VA to obtain fossils as small as one millimeter. These efforts are part of a collaboration with professional, retired, and amateur paleontologists in the region. Through Jeff, the museum has benefited greatly from this collaborative network with new specimen donations and broader popularization of the museum on the opposite side of the Commonwealth. Jeff is currently working on a wide range of scientific projects, including initiatives describing new species and records of fishes and reptiles housed at VMNH. The reptilian project is part of a collaboration with myself. On top of his extensive work in the science of paleontology, Jeff is a dedicated VA public school teacher, passionate about natural history education.

Extending to Mr. Carpenter a research associate role at the VMNH would formalize his already extensive contribution in paleontology in Virginia and his already extensive role in connecting the VMNH with larger networks of paleontologists and specimens elsewhere in the state. His scientific work, fieldwork, and educational efforts are of very high quality, and the affiliation will help continue his developing those broader communities. It will allow him easier access to the important specimens at the VMNH relevant to his ongoing work. I heartily recommend him as a research associate, and I would be happy to take questions about this potential appointment.

Sincerely,

Adam Pritchard
Associate Curator of Paleontology
Virginia Museum of Natural History
adam.pritchard@vmnh.virginia.gov
Phone: 301-788-8443

Virginia Museum of Natural History

21 Starling Street Martinsville, VA 24112

4 June 2026

To the Research & Collections Committee:

My name is Jeffrey Carpenter. I am currently a certified Earth science teacher in Arlington, Virginia and an active fossil collector who has worked with the professional paleontology community for the past thirty years. I have placed numerous fossils in the Aurora Fossil Museum, the Calvert Marine Museum, the Denver Museum of Science and Nature, the Smithsonian and the Virginia Museum of Natural History. I have written several amateur paleontology articles, co-authored several professional paleontology articles and contributed to several additional professional paleontology articles, all of which are noted in the accompanying resume. Currently, I have legal permission to excavate two important sites in the District of Columbia, Maryland and Virginia (DMV) area as noted in the accompanying resume. Most of the significant fossils I discover from these two sites are donated to the Virginia Museum of Natural History.

I am asking to become a research associate with the Virginia Museum of Natural History because it will allow me easier legal access to some fossil sites in the DMV area and it will give me a recognizable credential when I co-author a professional paleontology article.

I am currently working on numerous paleontology projects: with Dr. Pritchard on two projects, the Eocene sea snake, *Palaeophis* and Eocene terrestrial lizards of Virginia, with Dr. Hilton of the Virginia Institute of Marine Science (VIMS) on Eocene holostean fish, and with Dr. Gary Stringer of the University of Louisiana at Monroe on Paleogene otoliths of the DMV area. Thank you for your consideration.

Jeffrey Carpenter
12789 Faircrest Court #303
Fairfax, VA 22033
jeffcarp3@cox.net
703-282-8253

Jeffrey D. Carpenter
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Fairfax, VA 22033
(703) 282-8253
Email: jeffcarp3@cox.net, jeffrey.carpenter2@apsva.us

Summary

Teacher certified in Virginia for Earth science, mathematics and physics and published amateur paleontologist seeking research affiliation to facilitate paleontology research and publication.

Education

Career Switcher Program, May 2015
Virginia Teaching Certificate in Earth Science, Mathematics and Physics - Expires 30 Jun 2031

Master of Engineering Management (Systems Engineering)
George Washington University, 2000

Paleontology Research - Museum Experience

Paleontology Research **Present**

Aquia Formation - Piscataway Creek, Prince George's County, MD
Prince George's County, MD fossil collecting permit to continue research into Aquia Formation exposed in Piscataway Creek, MD.
Nanjemoy Formation – Fisher/Sullivan Site, Stafford County, VA
Have permission of a private landowner to collect fossils in Nanjemoy formation in Stafford County, VA

Donated numerous fossil specimens including bird, lizard, and snake from the Nanjemoy formation to the Virginia Museum of Natural History.

- Various bird vertebrae and other bones from less than fifty bird bones ever found in the Nanjemoy formation.
- Three lizard vertebrae that represent half of six lizard fossils ever found in Nanjemoy formation.
- Partial snake jaw that is only the second known Palaeophis jaw ever found in the world.

Smithsonian Docent/Paleontologist **2007 – 2024**
Talked with over 100,000 visitors to the Smithsonian National Museum of Natural History. Created a new hands-on display, "Exploring an Ancient Ocean", hailed by visiting paleontologist as "One of the best hands-on fossil displays ever seen". Published four educational articles in amateur paleontology journals including the Eastern Federation of Mineralogical Societies (EFMLS) 2008 Best Educational Article of the Year. Awarded the EFMLS 2012 Each One Teach One Award for best contributor to geologic education to the public.

Additional VA Government Experience

Virginia Brain Injury Council (VBIC) **2009 – 2012**

VBIC, Member at Large (Survivor), 2009 - 2012
Completed a three-year appointment as a Member at Large (Survivor) to the Virginia Brain Injury Council, a state level advisory board that advises the Virginia Director of Rehabilitative Services (DRS) on brain injury services provided by the Commonwealth of Virginia.

Publications

Co-Author **2020 – Present**

Taxonomy, paleoecology, and biostratigraphy of the Paleocene teleostean otolith assemblages of the Aquia Formation (Selandian Piscataway and Thanetian Paspotansa members), Maryland, USA, including new genera and species, Dr. Gary Stringer, Gary Grimsley, George Fonger and Jeffrey Carpenter
Historical Biology (GHBI) April 2026

An additional bird fossil from the Fisher/Sullivan site, Eocene of VA, Jeffrey Carpenter and David Parris
The Mosasaur: Delaware Valley Paleontological Society Volume XI, Jun 2020

Bony-Tongue Fishes (Teleostei: Osteoglossomorpha) from the Eocene Nanjemoy Formation, Virginia, Jeffrey Carpenter and Eric Hilton
Northeastern Naturalist, Volume 27(1), 2020

Contributor **1999 – Present**

A terrestrial snake from the lower Eocene of the mid-Atlantic region (Nanjemoy Formation, Virginia) of North America, Adam C. Pritchard, Jacob A. McCartney, Georgios Georgalis, Krister T. Smith
Acta Palaeontologica Polonica Dec 2025

Additions to the bony fish fauna from the early Eocene Nanjemoy formation of Maryland and Virginia, USA, Robert E. Weems
The Mosasaur: Delaware Valley Paleontological Society Volume XI, Jun 2020

Fossil birds of Florissant, Colorado: with a description of a new genus and species of cuckoo, R. M. Chandler.
National Park Service Paleontological Research, Volume 4. Geologic Resources Division Technical Report NPS/NRGRD/GRDTR-99/03. 1999

Virginia Museum of
NATURAL HISTORY

Calendar Year 2027 Acquisition Plans

Archaeology
Dr. Hayden Bassett

The main impediment to collections care and accessibility in 2027 is storage space. The Archaeological collections room is currently at capacity (98% filled). We will increasingly have to rely on opportunistic storage until offsite storage (Douglas Ave) is complete. In 2026, the archaeology curator and staff continued to reorganize collections to maximize limited space. Because of this, acquisition of new archaeological collections is limited to acquisition priorities 1-3. Priority 1 continues to build on the department's recent success in building research reference collections, as opposed to accepting entire archaeological site collections or donated material with limited research value. Outside researchers conducting collections-based archaeological work increasingly seek out digital collections. Museums/repositories are receiving greater attention for their comprehensive reference collections, and non-digital associated records (documents, measured drawings, field notes, etc.), as opposed to purely archaeological site assemblages.

Priority 1. Collections/specimens/documents representing comprehensive reference material by type, form, technology, species, and/or geography. This includes artifact, shell, wood (dendrochronology), archaeobotanical, archaeofaunal (zooarchaeology), and architectural (document-based) reference material to be used in the identification or analysis phase of archaeological research.

Priority 2. Collections from local/regional sites, generated by VMNH fieldwork. In 2026, the VMNH Archaeology Department continued to conduct local archaeological fieldwork, recordation of standing historic buildings, and collected dendrochronological cores, generating physical collections. The archaeological collections will be stored in a dedicated cabinet in the VMNH Archaeology Lab, while the dendrochronology cores will be curated in dedicated, humidity-controlled space in Archaeology Room 101. Space in these storage areas will continue to be reserved for local archaeology and Virginia-based dendrochronology. *Note:* Collection/creation of measured drawings of regional historic structures represents a new addition to priority 2, following current interests/demands in Virginia historical/archaeological research.

Priority 3. Collections with high research potential, currently housed elsewhere. A special emphasis will be placed on acquisition of local/regional collections.

Priority 4. Salvage and opportunistic: Archaeological specimens recovered through opportunistic site visits or through donations.

Priority 5. Collections from non-academic or research-based sources, *i.e.*, private collections. These collections tend to be large and have little to no research value. Few of these collections are accepted and then only if they have exceptional exhibit or education value or include a rare artifact type with some provenience information.

Invertebrate Zoology
Dr. Kaloyan Ivanov

The following materials are expected to be acquired within the next year. Wet and dry storage space is adequate to accommodate any new specimens acquired.

Terrestrial Invertebrates

Priority 1. Specimens generated by ongoing research activities, with primary focus on material from Virginia and the southeastern USA. Specimens from other areas in the USA (Texas) and/or other countries (Vietnam, Philippines) may also be included.

a. Hymenoptera (ants, bees, and wasps) as pinned/pointed and alcohol-preserved specimens.
b. Millipedes, especially in the orders Polydesmida and Chordeumatida as alcohol-preserved specimens.
c. Terrestrial isopods (Isopoda: Oniscidea) as alcohol-preserved specimens.
d. Spiders as alcohol-preserved specimens.
e. Cicadas (Hemiptera: Cicadidae) as pinned specimens.
f. Dragonflies and damselflies, true bugs, earwigs, walkingsticks, mantids, cockroaches, and beetles as pinned specimens.
g. Leaf-litter and soil invertebrates as alcohol-preserved (annelids, pseudoscorpions, springtails, non-millipede myriapods, and non-insect hexapods) and pinned (true bugs and beetles) specimens.

Priority 2. Opportunistic acquisitions of specimens obtained through site visits, salvage, or through donations (prepared to handle if such material becomes available).

a. Various pinned and alcohol-preserved arthropods from Virginia and adjacent areas (A. Evans, S. Roble, C. Harden, D. Hennen, others).

Priority 3. Specimens to support exhibits and/or education programs (as needed or become available).

Aquatic Invertebrates

There is currently no plan to acquire new materials. If such materials become available (opportunistic acquisitions), they will be handled on a case-by-case basis.

Forensic Work

There is currently no plan to acquire new materials. If such materials become available (casework and teaching efforts), they will be handled on a case-by-case basis.

Vertebrate Zoology
Drs. Collin VanBuren & Jackson Roberts

The following materials are expected to be acquired within the next year. Wet and dry storage space is adequate to accommodate any new specimen acquisitions indicated below.

Herpetology

Priority 1. Research-targeted acquisitions of specimens and tissues, following current permit allocations for various ongoing projects will help to facilitate regional research and collaborations. Specimen acquisition will be based on Dr. Roberts' priorities. Currently, we have permits for active collection in Virginia and South Carolina, and we are expecting permits in other states in the United States to collect material that is needed for large range wide research projects. Dr. Roberts anticipates adding between 50-100 (predominantly) wet specimens from active collecting of live material.

Priority 2. Opportunistic acquisitions of specimens and tissues, through salvage events and donations and orphan collections when appropriate to augment the herpetology collection. At present, we are expecting anywhere between 300 – 19,000 specimens from the Sternberg Museum of Natural History (Hays, KS), as well as 3 venomous snakes for education, due to the recent news of closure. We anticipate 50-200 salvaged specimens and tissues by Dr. Roberts, and <50 salvaged specimens by the Research and Collections staff.

Priority 3. Educational and outreach acquisitions of specimens (wet, osteological, taxidermy), particularly those with no associated data/captive bred, to elevate outreach and education events as well as in-house exhibits. No more than 50 total specimens of this nature are anticipated, based on estimates of current items in the freezer backlog prior to 2023 that will be processed for this purpose.

Mammalogy

Priority 1. Opportunistic acquisitions of specimens and tissues, through salvage events and donations when appropriate to augment the mammalogy collection. Priorities for opportunistic acquisitions will be given to research-grade specimens and those at-risk of being lost from other institutions (e.g. Sternberg Museum of Natural History). Based on FY2025-2026, we anticipate under 50 salvaged tissues and 50 salvaged specimens for rare

mammals, mammals not currently represented in the collections, and occasional (other) common species (including to support the dermestid colony) by the Research and Collections Department, and less than 20 salvaged specimens and 20 tissues from Research Associate donations. Large collection acquisition opportunities will be assessed on a case-by-case basis with priority given to research-grade specimens that complement current mammal collections (e.g. fill taxonomic gaps).

Priority 2. Research-targeted acquisitions. Currently, there are no active mammalogy research projects at the VMNH that involve systematically sampling individuals, nor are there collections-based permits aside from salvage (see above) to collect mammal specimens.

Priority 3. Educational and outreach acquisitions of specimens (osteological, study skins, touch skin, taxidermy), particularly those with no associated data or are captive bred, will be considered on a piece-by-piece basis under the following criteria:

a. they fill an important curriculum-based gap, or they are part of the backlogged freezer specimens that already have been assigned a Record of Incoming Material (RIM) form, and
b. available storage space compared to the size of item is adequate.

Ornithology

Priority 1. Opportunistic acquisitions of bird specimens and tissues, through salvage events and donations when appropriate to augment the ornithology collection. One priority for opportunistic ornithology acquisitions is fluid preserved specimens because there is existing expansion space in this collection. Another priority is specimens at-risk of being lost from other institutions (e.g. Sternberg Museum of Natural History), with the potential to acquire ~6,000 specimens. Initial space assessments to absorb additional specimens have begun, although larger acquisitions may require additional resources (transportation, climate control, etc.).

Priority 2. Research-targeted acquisitions. Currently, there are no active ornithology research projects at the VMNH that involve systematically sampling a population, nor are there collections-based permits aside from salvage (see above) to collect ornithological specimens.

Priority 3. Educational and outreach acquisitions of bird specimens (osteological, study skins, taxidermy), particularly those with no associated data or are captive bred, will be considered on a piece-by-piece basis under the following criteria:

a. they fill an important curriculum-based gap, or they are part of the backlogged freezer specimens that already have been assigned a Record of Incoming Material (RIM) form, and

b. available storage space compared to the size of item is adequate.

Ichthyology

Priority 1. Research-quality specimens representing Virginia diversity. These will be obtained through salvage and collaborations with colleagues. Space exists for future acquisitions, but is shared with Herpetology expansion, and no plans have been made to add additional specimens at this time.

Priority 2. Specimens to support exhibits and education programs. These will be obtained through salvage, purchase, and/or collaborations with colleagues.

Paleontology
Dr. Adam C. Pritchard

The following materials are expected to be acquired within the next year and can be accommodated in paleontology storage areas to be developed throughout 2027. Fossil collections by VMNH and VMNH-associated teams will primarily target fieldwork at the Ashland Triassic Site, the Carmel Church Quarry, and Morrison Formation localities. None of these should produce large vertebrate skeletons or plaster jackets to be integrated into collections in CY 2027, in concert with the limited availability of space at 21 Starling Avenue and the continued development of Douglas Avenue as a storage facility. Jackets collected from the Jurassic sites will be stored off-site at a storage unit in Greybull, WY, as was the case during CYs 2023-2025. Overall, this year is focused primarily on collections storage development rather than large-scale acquisitions. However, there may be extremely rare opportunistic acquisitions due to major museum closures in the United States that require early use of the Douglas facilities and close-packing of specimens at 21 Starling.

Priority 1. Triassic fossils of Virginia. Multiple one-day to one-week excavations in Ashland, VA, and other sites in the circum-Richmond area. Acquisitions will include multiple types of rock containing plants, invertebrates (clam shrimp, insects), and vertebrates. Likely to total two to three double-wide cabinet drawers full of specimens. I also intend to try to cultivate further relationships in the Danville area to have more Triassic sites proximate to the museum itself.

Priority 2. Atlantic Coastal Plain Vertebrates (Carmel Church Quarry). Two to three one-week excavations in Spring and Fall of 2027 targeted at exploration of small vertebrate-producing sites within the CCQ. After the final collection

of a whale skull in August 2026, new efforts at CCQ will focus on collection of small vertebrates in the Calvert Formation, including mostly isolated shark, fish fossils, reptile material, and mammal bones. Although small, these have greater potential to add to our understanding of diversity in the Atlantic Coastal Plain than additional whale skeletons. Likely to total two to three double-wide cabinet drawers.

Priority 3. Opportunistic acquisitions (collaborations with professional and amateur Virginian paleontologists, acquisitions from major museum closures). Continued relationships with private collectors and professional paleontologists seeking permanent repositories will bring in new invertebrate material to our weak Palaeozoic and early Mesozoic collections. These include:

a) Virginia Tech paleontologists working on Palaeozoic and early Mesozoic sites throughout the Commonwealth as part of fieldwork training.
b) Amateur paleontologists working along the Atlantic Coastal Plain.

Evolving situations involving the closure of two major museums: the Academy of Natural Sciences in Philadelphia and the Sternberg Museum in Hays, Kansas MAY present opportunities for the VMNH to participate in international collaborations with other museums to salvage some of the most important threatened collections in paleontology. It is possible that *no* salvage efforts for paleontology will be required, but the situations are fluid. Small specimens from the early Mesozoic and historical materials from early Virginian paleontology would likely take up ½ to one double-wide cabinet. Some larger (5'x5' max) slab specimens may require salvage as well, which could be briefly stored in Loading Dock B or at Douglas Avenue if urgent need of salvage was required.

Again, I reiterate that for both museums paleontological specimens may not require salvage, but if they do the VMNH is poised to be part of the international efforts to rescue material and acquire important research specimens relevant to our mission.

Department of Education and Public Programs (DEPP)
Ms. Christy Deatherage

There is currently no plan to acquire new materials in the DEPP. However, we will report materials that would enhance current exhibits or programs if offered to the Department.

Earth Sciences

There is currently no Earth Sciences curator and no plan to acquire new materials; however, there may be some opportunistic acquisitions. These will be handled on a case-by-case basis and existing storage space should be sufficient to store them. It is

possible that education and/or exhibits material may be added to the collections. If this includes mineral specimens, these may be accessioned.