

VIRGINIA MUSEUM OF NATURAL HISTORY
Board of Trustees Research and Collections Committee

Friday, Aug. 11, 2023

2 p.m.

A G E N D A

- Call to order
- Roll Call: Dr. Art Evans, Dr. Tom Benzing, Dr. Carole Nash, Melany Stowe, Mark Buss.
- May 2023 Research and Collections Committee meeting minutes (action item)
- April-June 2023 acquisitions (action item)
- Consideration of the updated collections policy/live animals policy
- Discussion regarding Centers of Excellence
- Discussion regarding potential museum expansion
- 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 BOARD OF TRUSTEES
MINUTES OF THE RESEARCH AND COLLECTIONS COMMITTEE
May 20, 2023

Present at the meeting were Dr. Art Evans, Dr. Tom Benzing, Mark Buss, Dr. Kal Ivanov, Dr. Hayden Bassett, Marshall Boyd, Dr. Arianna Kuhn, Lisa Carter, and Ben Williams.

Committee Chairman Dr. Art Evans called the meeting to order. The minutes of the Nov. 12, 2022 meeting were unanimously approved; the committee did not meet in February. The committee signed off on the museum's recent acquisitions.

Regarding the recent acquisitions, Dr. Tom Benzing asked what it means when something is accepted but not accessioned. Dr. Hayden Bassett explained that curators have the option of bringing in items that are not accessioned and assigned a VMNH number; these are typically specimens that are good but do not come with provenance or contextual information. This is also the case with specimens that are being housed at VMNH but are not owned by VMNH; for example, fossils that are owned by the Bureau of Land Management.

Dr. Art Evans asked the curators in attendance to discuss some of their recent accomplishments. Dr. Hayden Bassett said that the archaeology department has focused on publications for the past quarter, including a number of reports that were reviewed and published through the Smithsonian. Dr. Kal Ivanov said that the entomology department has recently published a paper, has another in press, has a third in review, and has between five and eight additional publications in various stages of completion. Dr. Arianna Kuhn said she recently learned that a grant that she had applied for with a close collaborator at the Field Museum had been awarded; the grant had requested a year of funding for field work in Madagascar, and they were actually awarded three years' worth of funding.

Dr. Art Evans said that he was very pleased that the museum's internet network had been overhauled and was finally working reliably.

Dr. Art Evans said that the museum's collections policy and new live animals policy are currently under review; he stressed that these policies belong to the Board of Trustees and encouraged all board members to review the policies as research and collections is the museum's core activity. Evans asked that any board members with suggested edits to the policies submit those to either himself or Dr. Nancy Moncrief by July 13, 2023. Ideally, any edits will be considered and incorporated in time for the committee to recommend to the board that the policies be adopted at the board's August meeting.

Dr. Art Evans invited Dr. Arianna Kuhn and Marshall Boyd to introduce themselves. Kuhn said that she arrived at the museum following postdoctoral work in Canada that focused on conservation genomics. She was previously at the American Museum of Natural History and said that Boyd was previously at the Smithsonian. Kuhn said that

she and Boyd had begun field work and are actively studying the impact of climate change on hyperlocalized salamander species. They are also established the museum's first herpetology frozen tissue collection. Boyd added that they're using GIS mapping to find "holes" across Virginia that haven't seen much active collection. Kuhn said that the herpetology department is also connecting with other state agencies to expand its footprint in Virginia.

Lisa Carter asked Dr. Arianna Kuhn why she had applied for a grant to study reptiles and amphibians in Madagascar specifically. Kuhn said that it's because the island of Madagascar has been isolated for more than 80 million years, leading to the evolution unique animals with a great deal of morphological diversity.

Dr. Tom Benzing asked if Dr. Arianna Kuhn had made any connections with the Mountain Lake Biological Station. Kuhn said that she's going to a conference there in September, and Benzing recommended she contact the University of Virginia to inquire about working with the station.

Dr. Tom Benzing asked if there were any updates on the amount of space for museum collections. Marshall Boyd said that he was in the process of reorganizing the fluid preserved mammals in collection to make space for fluid and dry herpetology. He added that he was consolidating the bird collections to create more space as well.

Lisa Carter asked if the museum's Douglas Avenue site was closer to being ready for collections storage. Dr. Kal Ivanov said that while progress was being made, it would likely be five years before the space was completely ready.

Dr. Art Evans adjourned the meeting.

APRIL-JUNE 2023 VMNH ACQUISITIONS FOR APPROVAL BY BOARD OF TRUSTEES RESEARCH AND COLLECTIONS COMMITTEE

RIM* #	Collector/Donor	Date at VMNH	VMNH Dept.	QTY	Description	Method	To Be Accessioned
RIM 16-2023	Haley Cartmell	3/27/2023	HERPETOLOGY	1	black ratsnake (<i>Pantherophis obsoletus</i>)	Salvaged	Not to be Accessioned.
RIM 17-2023	Arianna Kuhn	5/8/2023	HERPETOLOGY	2	1 black racer (<i>Coluber constrictor</i>) and 1 Dekay's brownsnake (<i>Storeria dekayi</i>)	Salvaged	Yes
RIM 18-2023	Robert Weems	3/18/2023	PALEONTOLOGY	24	2 shale pcs w/reptile tooth and 22 shale pcs w/fish scales, skeletal elements	Gift	Yes
RIM 19-2023	US Forest Service (Clinch River District)	5/8/2023	PALEONTOLOGY	5	4 sandstone rocks w/embedded plant fossils and 1 calcified wood sample	Field Collection	Not to be Accessioned – USFS Property
RIM 20-2023	Adam Pritchard	5/8/2023	PALEONTOLOGY	12	5 mudstone slabs w/plant fossils and 7 pcs of microlaminated sandstone w/ plant fossils	Field Collection	Yes
RIM 21-2023	Marshall Boyd	4/11/2023	MAMMALOLOGY	1	Woodchuck (<i>Marmota monax</i>)	Salvaged	Yes
RIM 22-2023	Nancy D. Moncrief	4/21/2023	MAMMALOLOGY	1	Wood Thrush (<i>Hylocichla mustelina</i>)	Salvaged	Yes
RIM 23-2023	Haley Cartmell	5/8/2023	ORNITHOLOGY	1	Bluejay (<i>Cyanocitta cristata</i>)	Salvaged	Yes
RIM 24-2023	Haley Cartmell	5/8/2023	MAMMALOLOGY	1	mouse	Salvaged	Yes
RIM 25-2023	Marshall Boyd	5/11/2023	MAMMALOLOGY	1	Woodchuck (<i>Marmota monax</i>)	Salvaged	Yes
RIM 26-2023	Adam Pritchard	4/3/2023	HERPETOLOGY	1	<i>Lithobates</i> sp.	Salvaged	Yes
RIM 27-2023	Jason Gibson	4/21/2023	HERPETOLOGY	8	<i>Lithobates palustris</i> (pickerel frog), 3 <i>Pseudacris crucifer</i> (spring peeper), 2 <i>Acris crepitans</i> (northern cricket frog), <i>Hyla</i> sp., <i>Storeria dekayi</i>	Gift	Yes
RIM 28-2023	Arianna Kuhn	6/6/2023	HERPETOLOGY	1	1 black racer (<i>Coluber constrictor</i>)	Salvaged	Yes
RIM 29-2023	Curt W. Harden	7/6/2023	RECENT INVERTEBRATES	1913	65 vials with unknown # unidentified invertebrates and 1848 dry, pinned specimens	Gift	Yes
RIM 30-2023	David H. Womack (Family of Charles A. Womack)	6/6/2023	DEPP	36	7 bird and small mammal taxidermy mounts, 2 articulated skeletons, ostrich egg, and 26 recent invert specimens in display cases	Gift	Not to be Accessioned – programming use

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

RIM* #	Collector/Donor	Date at VMNH	VMNH Dept.	QTY	Description	Method	To Be Accessioned
RIM 31-2023	David H. Womack (Family of Charles A. Womack)	6/6/2023	RECENT INVERTEBRATES	TBD	dry preserved specimens in good condition without data (few exceptions) and 12 custom made insect drawers; to be used for outreach and/or exhibits	Gift	Not to be Accessioned – programming use
RIM 32-2023	Ashley Womble	7/6/2023	DEPP	5	taxidermy mounts: wild turkey and 4 fox squirrels	Gift	Not to be Accessioned – programming use
RIM 33-2023	Larry R. Stone	7/5/2023	TO BE DETERMINED	TBD	assorted minerals	Gift	Not to be Accessioned.
RIM 34-2023	Marshall Boyd	6/28/2023	HERPETOLOGY	1	1 Mole Kingsnake (<i>Lampropeltis calligaster</i>)	Salvaged	Yes

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

APRIL-JUNE 2023 VMNH ACQUISITIONS FOR APPROVAL BY BOARD OF TRUSTEES RESEARCH AND COLLECTIONS COMMITTEE

VMNH Collections Committee and Executive Director have Approved Recent Acquisitions: RIM 16-2023 through RIM 34-2023

VMNH Board of Trustees Research & Collections Committee Review of Acquisitions: RIM 16-2023 through RIM 34-2023

Arthur V. Evans, Chair

 (signature) Arthur V. Evans, Chair

 Date

Thomas R. Benzing

 (signature) Thomas R. Benzing

 Date

Mark J. Buss

 (signature) Mark J. Buss

 Date

Carole L. Nash

 (signature) Carole L. Nash

 Date

Melany Stowe

 (signature) Carole L. Nash

 Date

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 Date

Calendar Year 2023 Acquisition Plans

Research and Collections

Archaeology Dr. Hayden Bassett

The main impediment to collections care and accessibility in 2022-2023 is storage space. Several large collections were accepted between 2017-2019, putting the Archaeological collections room at capacity (98% filled). This makes accessibility of the collection difficult, as we will increasingly have to rely on opportunistic or off-site storage. In 2022, the archaeology curator and staff archaeologist continued to reorganize collections to maximize limited space. All available general-use storage space outside of designated archaeological storage has now been filled by other curatorial departments. Because of this, acquisition of new archaeological collections is currently on hold. The remaining space will be reserved for VMNH-generated archaeological collections from the Smith River Survey and Leatherwood projects.

- Priority 1.** Collections from local/regional archaeological sites, generated by VMNH Archaeological fieldwork. The VMNH Archaeology department has received two major grants for fieldwork in Henry County, to be conducted between 2022-2024: 1.) the Smith River Survey, and 2.) the Patrick Henry Leatherwood project. Fieldwork has begun, involving targeted phase I and phase II excavations, which are now generating new collections. Because the Archaeological storage room is at capacity, these new collections will be stored in Room 130 for in-processing, accessioning, active study, reporting, new exhibit creation, and specialized analyses.

- Priority 2.** Collections related to published research, with high research potential, currently housed elsewhere. A special emphasis will be placed on acquisition of local/regional collections.

- Priority 3.** Collections currently held by other state agencies, colleges or universities, or companies/organizations participating in cultural resource management projects.

- Priority 4.** Salvage and opportunistic. Archaeological specimens recovered through opportunistic site visits or through donations. This includes unsolicited donations that may contain research quality or exhibit/educational quality specimens.

- 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.

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.

Paleontology **Dr. Adam C. Pritchard**

The following materials are expected to be acquired within the next year and can be accommodated in existing paleontology storage areas. This does not preclude the possibility of acquisition of additional material that becomes available because of orphaned collections or new discoveries.

- Priority 1.** **Triassic fossils of Virginia.** Multiple one day to one week excavations in Ashland, VA and 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.
- Priority 2.** **Wyoming dinosaur project, Two Sisters Quarry.** One three-week excavation planned for Summer of 2023, headed by Brooke Haiar (U Lynchburg), Lucy Treado, and myself. Work will recover 10+ plaster jackets and isolated bones of dinosaurs. Likely to total two to three double-wide cabinet drawers full of specimens. Specimens owned by BLM, but managed by VMNH Paleontology.
- Priority 3.** **Cultivated Relationships with Private Collectors.** After cultivating relationships w/ private collectors, specimens will be through donations. This will concentrate on northern VA fossils. Recent donations have included Atlantic Coastal Plain reptiles and invertebrates, and Triassic vertebrates and invertebrates.
- Priority 4.** **Atlantic Coastal Plain Vertebrates/Carmel Church Quarry.** One to two two-week excavations in Spring 2023, targeted at excavation of

baleen whale from the St. Marys Formation. Opportunistic discoveries will almost certainly occur as well. Likely to bring in one large plaster jacket and one double-wide cabinet drawer's worth of material.

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 and/or other countries 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. Cicadas (Hemiptera: Cicadidae) as pinned specimens.
 - e. Dragonflies and damselflies, true bugs, earwigs, walkingsticks, mantids, cockroaches, and beetles as pinned specimens.
 - f. Leaf-litter and soil invertebrates as alcohol-preserved (annelids, pseudoscorpions, spiders, 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. Alcohol-preserved Embioptera (webspinners) (M. Bertone, NCSU).
 - b. Pinned Formicidae (ants) and alcohol-preserved Zoraptera (angel insects) (S. Dash, Hampton University).
 - c. 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 Biology (except Reptiles and Amphibians) **Dr. Nancy D. Moncrief**

No large quantities of specimens are anticipated in the next year, and existing storage space is sufficient to house any new specimens acquired. Priorities for individual vertebrate biology departments are listed below.

Ichthyology

- Priority 1.** Research-quality specimens of taxa present in Virginia. These will be obtained through salvage and collaborations with colleagues.
- Priority 2.** Specimens to support exhibits and education programs. These will be obtained through salvage, purchase, and/or collaborations with colleagues.

Mammalogy

- Priority 1.** Specimens to support my research projects or generated by my research activities. These would include 1) mammals from eastern North America, especially those from Virginia, and 2) comparative material related to those projects and activities.
- Priority 2.** Research-quality specimens of taxa present in Virginia. These will be obtained through salvage, opportunistic collecting and collaborations with colleagues most of whom are in Virginia (e.g., VDWR, DCR-VNHP).
- Priority 3.** Specimens to support exhibits and education programs. These will be obtained through salvage, opportunistic collecting, purchase, and/or collaborations with colleagues.

Ornithology

- Priority 1.** Research-quality specimens of taxa present in Virginia. These will be obtained through salvage and collaborations with colleagues.
- Priority 2.** Specimens to support exhibits and education programs. These will be obtained through salvage, purchase, and/or collaborations with colleagues.

Ancillary Collections (Especially Frozen Tissues)

- Priority 1.** Specimens to support my research projects or generated by my research activities. These would include 1) mammals from eastern North America,

especially those from Virginia, and 2) comparative material related to those projects and activities.

- Priority 2.** Research-quality specimens of vertebrate taxa present in Virginia. These will be obtained through salvage, opportunistic collecting, and collaborations with colleagues most of whom are in Virginia (e.g., VDWR, DCR-VNHP).

Vertebrate Biology (Reptiles and Amphibians)

Arianna Kuhn

- Priority 1. Opportunistic Acquisitions.** Reptile and amphibian specimens and tissues will be obtained through salvage events and donations when appropriate to augment the herpetology collection. At present, no large donations are anticipated for 2022–2023.
- Priority 2. Research-targeted Acquisitions.** Through focused, research-driven efforts, reptile and amphibian specimens and tissues will be added to the collections as current permitting allows to (1) fill gaps in regional species representation and (2) facilitate regional and international research and collaborations (e.g., Spring 2023 collaboration with University of Florida).
- Priority 3. Educational and Outreach Acquisitions.** Reptile and amphibian specimens (wet, osteological, taxidermy), particularly those with no associated data/captive bred, will be added to the collection to elevate outreach and education events as well as in-house exhibits.

Education and Public Programs

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.

**VIRGINIA MUSEUM OF NATURAL HISTORY
RESEARCH AND COLLECTIONS ACTIVITIES**

**Report to the Board of Trustees
April-June 2023**

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

- Drs. Ivanov and Means, and colleagues have a manuscript in press at *European Journal of Taxonomy*.
- Dr. Ivanov and colleagues from Virginia Tech have a manuscript accepted at *Ecosphere*.
- Drs. Ivanov and Means, and colleagues have a manuscript accepted at *Biota Neotropica*.
- Dr. Ivanov and VMNH Research Associate Dr. Art Evans recently returned from a 3-week-long collecting trip to the southeastern United States. The trip also included work at the Florida State Collection of Arthropods (FSCA) and Archbold Biological Station and was partially funded by the Stewart and Jarmila Peck Collection Enhancement Endowment travel grant from the Center for Systematic Entomology at FSCA.
- Dr. Ivanov participated in VMNH's Reptile Fest and interacted with 2,000+ visitors.

Research & Collections

Drs. Means and Ivanov, R. Bouzan, Drs. L. F. M. Iniesta and A. D. Brescovit, D. Martinez-Torres (Universidad Nacional de Colombia, Colombia), and L. F. Vasquez-Valverde (Virginia Tech, Virginia) have a manuscript in press at the *European Journal of Taxonomy*. The work reviews the previously monotypic South American millipede genus *Dibolostethus* (Polydesmida: Chelodesmidae), and includes the description of two new species (one of which from VMNH's invertebrate collection), and a summary of the Chelodesmidae taxa known from the Tropical Andes Biodiversity Hotspot.

Dr. Ivanov and Virginia Tech colleagues (former graduate student M. Malone, Drs. R. Schurch and S. Taylor) have a manuscript accepted at *Ecosphere*. The work focuses on the range expansion of the invasive Red Imported Fire Ant, *Solenopsis invicta* Buren, in Virginia. The manuscript also explores the potential spread of this notorious invasive species across the United States using predictive distribution modelling.

Drs. Ivanov and Means, R. Bouzan, Drs. L. F. M. Iniesta and A. D. Brescovit, and G. B. Pupin (Instituto Butantan, Brazil) have a manuscript accepted at *Biota Neotropica*. The paper reports the first case of mass occurrence in the millipede family Chelodesmidae and includes the description of the heretofore unknown female of *Sandalodesmus araujo* (Schubart, 1946), previously known only from the male holotype collected in the state of São Paulo, Brazil in 1943. In addition, the paper discusses the utility of female genitalic characters for species delineation in *Sandalodesmus*.

Drs. Ivanov, Yang (Virginia Tech), Guénard (U Hong Kong), and Economo (Okinawa Institute of Science and Technology) continued work on a manuscript focused on the exotic ant fauna of North America (north of Mexico). When completed, the paper will offer a comprehensive list of all non-native ant taxa recorded from North America along with known distributions, and ecological notes.

Drs Ivanov and Means, and L. Hightower completed the penultimate round of sampling and sample processing for a project focused on the leaf-litter and soil arthropod fauna of a private property located at the foothills of the Blue Ridge Mountains in Stuart, VA. The work, which is partly funded by the property's owner and longtime museum supporter L. Reagan, has resulted in the collection of an unusual species of terrestrial isopod (possibly undescribed *Ligidium*), a new species of millipede (*Nannaria*), three undescribed beetle species (*Anilinus*, *Arianops*, *Dasycerus*), and a rare ant species (*Proceratium creek* De Andrade). The collected materials are temporarily stored in the Recent Invertebrates lab awaiting processing. (May 10)

Drs. Ivanov and Means, and L. Hightower processed 40 nests as part of recently launched project focused on the arthropod diversity associated with the nests of cavity-nesting birds utilizing Eastern bluebird boxes. The work is conducted in conjunction with a Citizen Science bluebird monitoring project conducted by the Southwestern Piedmont Chapter of the Virginia Master Naturalist.

Dr. Ivanov and VMNH Research Associate Dr. Art Evans conducted fieldwork in 14 Alabama, Florida, and Georgia counties as part of a 3-week-long collecting trip to the southeastern United States. The purpose of the trip was to fill in gaps within the museum's invertebrate holdings and collect data for a number of ongoing research projects. The trip also included work at the Florida State Collection of Arthropods (FSCA; Gainesville, FL) and Archbold Biological Station (Venus, FL) and was partially funded by the Stewart and Jarmila Peck Collection Enhancement Endowment travel grant from the Center for Systematic Entomology at FSCA. The collected materials are currently being processed and curated. (May 31- June 18)

This quarter, Dr. Ivanov and colleagues (primarily Dr. Means) conducted fieldwork in Bland, Carroll, Giles, Patrick, Pulaski, Scott, and Washington Cos., Virginia in support of ongoing research projects.

As part of a long-term inventory, updating, reorganization, and databasing of VMNH's invertebrate holdings, L. Hightower, with help from Dr. Ivanov, inventoried 32,500 specimens representing 850 species in 26 beetle families.

VMNH Collections Manager H. Cartmell, with help from Dr. Ivanov, is continuing work on inventorying and cataloging VMNH's Mollusca (mollusks) holdings. Recent work included the curation and digitization of backlogged unionid specimens recently transferred from the museum's storage facility at Douglas Ave.

Visiting researcher Dr. A. Evans (VMNH Research Associate) worked on curating VMNH's holdings of Cerambycidae (longhorn beetles) and Tenebrionidae (darkling beetles), two of the five remaining groups of dry-preserved insects in the museum's holdings in need of curation and updating. (May 18-19)

Dr. Ivanov oversaw the acquisition of 65 lots of ethanol-preserved unidentified invertebrates (mainly Diplopoda, Isopoda, and Hymenoptera) and 1,848 pinned/pointed largely identified insects (chiefly Coleoptera) donated to VMNH by C. Harden (Clemson U; RIM2023-29); and 667 dry-preserved invertebrates (Porifera, Anthozoa, Mollusca, Xiphosura, Arthropoda, and Echinodermata) donated to VMNH by David H. Womack on behalf of Charles A. Womack, Sr. (RIM2023-31).

Dr. Ivanov satisfied a loan requests regarding VMNH's invertebrate holdings: 12 pointed *Dasycerus* spp. (Staphylinidae; rove beetles) (Dr. M. Caterino; Clemson U); 38 lots of alcohol-preserved Asellota (aquatic isopods) (Dr. J.J. Lewis; VMNH Research Associate); 17 SEM prepared Bryozoa (moss animals) (Dr. J. Winston; Smithsonian Marine Station)

Education & Outreach

Dr. Ivanov and museum staff participated in VMNH's Reptile Fest, which offered a variety of displays and activities that ranged from preserved amphibian and reptile specimens from the museum's collections to live arthropods, amphibians and reptiles, special stage presentations, and variety of reptile-themed children games and crafts. The two day event attracted 3,058 children and adults from Virginia and nine additional US states (Delaware, Georgia, Iowa, Kansas, New York, North Carolina, Pennsylvania, Washington, D. C., and West Virginia) and Canada. (April 21-22)

Dr. Ivanov provided training in insect collecting, identification, and natural history to members of the Blue Ridge Foothills and Lakes Chapter of the Virginia Master Naturalists. (May 6)

In celebration of Global Big Day 2023, Dr. Ivanov, VMNH Executive Director Dr. J. Keiper, and VMNH Educator J. Brim led a birding trip for museum patrons in Patrick Co., Virginia. (May 13)

Dr. Ivanov and L. Hightower presented displays during the "Pollinators in the Park" event hosted by the Friends of Occoneechee State Park to celebrate National Pollinator Week 2023. The displays featured numerous Lepidoptera (moths and butterflies) specimens from the museum's invertebrate collections, which are not usually available for public viewing. The materials were widely appreciated by the public and encouraged visitors to discuss features of their anatomy, morphology, and biology with the VMNH team.

This quarter, Dr. Ivanov gave tours of VMNH's labs, collections, and exhibits to children and adults from VMNH's "Campology" Summer Camp, Central VA Rotary, AARP, UVA OLLI, and others. (June 28, 30)

Professional Service

As part of Virginia Tech's graduate student G. Harrison Advisory Committee, Dr. Ivanov traveled to Blacksburg and participated in G's successful thesis defense held in the Department of Entomology on May 2. G's work on the subterranean arthropod diversity of southwestern Virginia is currently being extended into a manuscript for publication.

Dr. Ivanov copy edited an article for the Virginia Natural History Society's periodical *Banisteria* (Volume 57, 2023). (completed June 30)

As part of the Taxonomy Advisory Committee of the 2025 Virginia Wildlife Action Plan (WAP), Drs. Ivanov and Means participated in online meetings and completed work on a list of potential species of greatest conservation need (SGCN; myriapods and ants) to be included in the 2025 WAP.

Drs. Ivanov and Means are serving as co-editors of VMNH's *Memoirs* series for a manuscript titled "The groundwater isopods of Virginia (Isopoda: Asellidae and Cirolanidae)" by Dr. J. J. Lewis and colleagues. The manuscript is currently at the proofs stage.

Nancy D. Moncrief, Ph.D.
Curator of Mammalogy

- Dr. Moncrief and Research Technician Mr. Marshall Boyd began a trial deployment of digital camera traps for small mammals.
- Dr. Moncrief began a collaborative study of the genetics of river otters in Virginia and West Virginia.
- Dr. Moncrief was interviewed for an article about her research that was published in the Martinsville Bulletin.

Research and Collections

Throughout the quarter, Dr. Moncrief met numerous times with collaborators and VMNH Research Associates Drs. John Porter and Ray Dueser. They discussed plans for testing digital camera traps for small mammals. This methodology will allow them to perform surveys of shrews and rodents without live-trapping, which can be very labor-intensive and time-consuming. In late June, Dr. Moncrief and Biology Research Technician Mr. Marshall Boyd installed several traps at a site in Franklin County, Virginia as a trial to begin developing and refining efficient techniques for deploying this kind of trap.

Dr. Nancy Moncrief also began collaborative research with faculty and students (Dr. Amy Welsh and Ms. Eden Nitza) in the Division of Forestry and Natural Resources at the University of West Virginia. They are using tissue samples of river otters archived at VMNH to study the genetics of this species in Virginia and West Virginia. This research will be used to help devise management strategies for river otters, which serve a critical ecological role as one of the top-level predators in aquatic ecosystems.

Dr. Moncrief and Ms. Harris continued inventorying and updating documentation for all the taxidermy mounts and other exhibit specimens of vertebrates (e.g., articulated skeletons) housed at VMNH.

Also, throughout the quarter, Dr. Moncrief continued working with Mr. Boyd and Mss. Hightower, Cartmell, and Harris to prepare, install, document, and organize traditional specimens and frozen tissues of mammals and birds and their accompanying museum documents (electronic and hardcopies). In particular, they made numerous edits to handwritten catalogs and electronic databases for the mammal and bird collections.

Dr. Moncrief prepared a loan of frozen tissue samples of least shrew specimens she collected in Nassawadox County, Virginia. She sent these samples to curators at the Smithsonian Institution's National Museum of Natural History (Drs. Neal Woodman and Michael McGowen). They are studying genetic relationships among North American populations of this species, and they needed samples from Virginia.

Professional Service and Other Duties

Dr. Moncrief continued serving on the Council of the Virginia Natural History Society (VNHS). She also continued serving (with Dr. Ivanov) as Co-Treasurer of VNHS.

Dr. Moncrief met several times with Drs. Ivanov and Means, as well as Dr. Karen Powers (who is the current VNHS President and Radford University Professor of Biology) to plan a one-day conference of VNHS members and other interested parties. The meeting will be held on 23 September 2023 at Radford University.

In April, Dr. Moncrief participated in VMNH's Reptile Festival. She worked both days at the admissions table for VMNH and ASTC members with Ms. Charlotte Harter. They interacted with a total of 416 visitors (87 adults and 329 children).

On 7 June Dr. Moncrief was part of the VMNH team that hosted a site visit by Secretary of Education Aimee Guidera.

On 30 June Dr. Moncrief was part of the VMNH team that hosted behind-the-scenes tours of VMNH Research labs and Collections Storage areas for a large group of potential supporters from Waynesboro.

Scientific Programs, Exhibits, and Other Activities

In April Dr. Moncrief was interviewed for an article about her research that was published in the Martinsville Bulletin.

https://martinsvillebulletin.com/lifestyles/features/moncrief-studies-mammals-birds-to-unlock-answers-about-life/article_2f6e4410-ccc0-11ed-8235-331f3c237b9f.html#tracking-source=article-related-bottom

Throughout the quarter, Dr. Moncrief worked with Mr. Ben Williams to plan a July 2023 visit by more than 150 high school students from the Summer Residential Governor's School for Science, Mathematics and Technology, which is based at Lynchburg University. For this visit, Dr. Moncrief and many other Research and Collections staff will guide specimen-based hands-on activities at the Museum for an entire day. She worked with Ms. Harris and Mr. Boyd to help them develop hands-on scientific programs that can be used for this group and others like it.

During May and June, Dr. Moncrief worked with Education Manager Ms. Christy Deatherage to begin developing a new hands-on specimen-based education program. Students will use microscopes in the IMLS-funded microscope lab to examine a variety of skulls from shrews and rodents. These animals can be identified based on difference in the size, shape, and number of their tiny teeth, but these differences can only be seen using microscopes such as the ones now available at VMNH. Dr. Moncrief plans to offer a trial version of this program to a group of Virginia Master Naturalists this Fall.

Hayden Bassett, Ph.D.
Assistant Curator of Archaeology

The VMNH Archaeology Department is currently staffed by 8 personnel as of July 2023. This includes the Department Head VMNH Assistant Curator of Archaeology Dr. Hayden Bassett, VMNH Senior Staff Archaeologist Madeleine Gunter-Bassett, the four core staff of the Cultural Heritage Monitoring Lab (William Welsh, Kaitlyn Fitzgerald, Sonia Dixon, and Abigail Maher), and two in-person Archaeology Lab technicians.

VMNH Archaeology Department: FEB-MAY 2023

- Full-time:
 - Hayden Bassett, PhD. (Dept. Head: Assistant Curator of Archaeology & CHML Director)
 - Madeline Gunter-Bassett, M.A. (Senior Staff Archaeologist & CHML Senior Analyst)
 - William Welsh, M.M.A. (CHML Director of Operations)
 - Kaitlyn Fitzgerald, M.A. (CHML Analyst)
- Part-Time:
 - Sonia Dixon, M.A. (CHML Senior Analyst)
 - Abigail Maher (CHML Analyst)
 - Aiden Lawrence (Archaeology Lab Tech)
 - Samantha Wall (Archaeology Lab Tech)

This quarter, Dr. Bassett focused his teams' efforts on publications, archaeological fieldwork in Henry County for the Smith River Survey, the VMNH Cultural Heritage Monitoring Lab's response to the wars in Ukraine and Sudan, and public outreach.

Research and Collections

From May to July, the VMNH Archaeology Department continued archaeological fieldwork for the Smith River Survey – a two-year archaeological survey of sites associated with Virginia's First Peoples along the Smith River in Henry County, VA. Bassett and his team conducted archaeological excavations on the "Wells Site," a Late-Woodland archaeological site in Henry County, VA. These test excavations refined the site's location and size and will now allow the VMNH team concentrate on parts of the site that will speak to preservation of the deposit, function, and more precise chronology.

As a producer and curatorial repository of digital collections, the VMNH Archaeology Department has expanded its digital collections holdings by nearly 6,500 "objects" since May 2023, and anticipates further growth in digital collections with each new quarter. The new objects include cultural heritage site location datasets for Sudan. These 6,500 digital objects in the VMNH's digital collections have already been requested/accessed by multiple outside researchers in the past two months. Through the hard work of the archaeology lab's new lab techs, the team also digitized over 400 pages of archaeological field notes for sites in Virginia. With the current physical storage space limitations at the VMNH, the Archaeology Dept will continue to focus on development and growth of its digital collections for public benefit.

A part Dr. Bassett's research efforts this quarter were dedicated to the leading role played by the VMNH's Cultural Heritage Monitoring Lab (CHML) in the US 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 over 1,900 and confirmed damage at 370. Dr. Bassett serves as the Co-PI on a multi-year project with the Smithsonian, in which the VMNH plays an important role. Dr. Bassett and the Smithsonian began a parallel project in Sudan this quarter with the same goals. This work has resulted in four published reports this quarter and international recognition of the VMNH as a leading research institution at the nexus of archaeology and international affairs.

Publications

Dr. Bassett and his team continued to move through the peer-reviewed process this quarter. Two of their publications passed peer review in March and April, and are now in press:

Bassett, Hayden F. (2023, *published online*): "Archaeology of Enslavement," in [**Encyclopedia of Archaeology. 2nd edition**](#), edited by Thilo Rehren and Efthymia Nikita. Elsevier Press.

Bassett, Hayden F., Harrell, K., Koropecykj, D., Gunter-Bassett, M., & Welsh, W. (2023, *in press - NOV*). "Partners as Stakeholders in Cultural Property Protection (CPP): Bridging the Intrinsic and Instrumental Value of Cultural Heritage." [**PER: Preservation Education and Research**](#).

Dr. Bassett's team and their collaborators also published four reports this quarter:

Gunter-Bassett, M., Bassett, H. F., Hanson, K., Welsh, W., Fitzgerald, K., Maher, A., Aronson, J., Cil, D., Averyt, K., Carroll, C., Wegener, C., and Daniels, B. I. (2023) [**Cultural Heritage Monitoring Lab Rapid Report: Damage to the Sudan National Museum \(18 May 2023\)**](#). Virginia Museum of Natural History, Cultural Heritage Monitoring Lab; University of Maryland, Center for International Development and Conflict Management; Penn Museum, Penn Cultural Heritage Center; and Smithsonian Institution, Smithsonian Cultural Rescue Initiative. DOI: 10.25573/data.22963304.

Bassett, H. F., Gunter-Bassett, M., Welsh, W., Fitzgerald, K., Maher, A., Aronson, J., Cil, D., Hanson, K., Averyt, K., Carroll, C., Wegener, C., and Daniels, B. I. (2023). [**Cultural Heritage Monitoring Lab Rapid Report: Damage to the Sudan Natural History Museum \(17 May 2023\)**](#). Virginia Museum of Natural History, Cultural Heritage Monitoring Lab; University of Maryland, Center for International Development and Conflict Management; Penn Museum, Penn Cultural Heritage Center; and Smithsonian Institution, Smithsonian Cultural Rescue Initiative. DOI: 10.25573/data.22932470.

Meharry, J. E., Zadorozhna, M., Narimanova, N., Rozhko, V., Diachenko, S., Welsh, W., Bassett, H., Gunter-Bassett, M., Fitzgerald, K., Maher, A., Hanson, K., Daniels, B. I., Aronson, J., Cil, D., and Wegener, C. (2023) [**'Rapid Report: Flooding at the Polina Raiko House Museum Due to the Nova Kakhovka Dam Destruction on**](#)

[6 June 2023](#)', Smithsonian Institution, Smithsonian Cultural Rescue Initiative; Ukrainian Heritage Monitoring Lab; University of Maryland, Center for International Development and Conflict Management; and Virginia Museum of Natural History, Cultural Heritage Monitoring Lab.

Rozhko, V., Yamelynets, A., Honek, Y., Zadorozhna, M., Narimanova, N., Hanson, K., Kelly, K., Kelly, M., Marx, A., Meharry, J. E., Daniels, B. I., Aronson, J., Cil, D., Bassett, H., Gunter-Bassett, M., Welsh, W., Fitzgerald, K., and Wegener, C. (2023) ['Rapid Preliminary Report: Flooding of Cultural Heritage Repositories Due to the Destruction of the Nova Kakhovka Dam on 6 June 2023'](#), Smithsonian Institution, Smithsonian Cultural Rescue Initiative; Ukrainian Heritage Monitoring Lab; University of Maryland, Center for International Development and Conflict Management; PlanetScape Ai; and Virginia Museum of Natural History, Cultural Heritage Monitoring Lab.

Education and Outreach

The VMNH Archaeology department worked with several colleges and universities this quarter. At the end of May, the Archaeology department completed 11 on-year student internships. These students represented 10 different universities. The virtual interns each contributed 10 hrs/week to the CHML at VMNH for the entire academic school year for credit through their respective colleges and universities. The Archaeology department also engaged with colleges/universities through their research. Dr. Bassett gave two lectures of cultural heritage in July: one at West Point Academy in NY and one at a William & Mary-sponsored symposium in Washington, D.C.. The department also continued the VMNH Archaeology Lab scholarship at Patrick & Henry Community College. As a part of the scholarship, the lab is funding a work-study for a P&HCC student through the summer.

Between June and July, Dr. Bassett participated in two cultural heritage diplomacy events, at the invitation of the Smithsonian Institution. This included outreach event held at the Cosmos Club on Embassy Row in Washington, D.C., and a U.S.-Ukraine cultural event honoring the current collaborations in the cultural sector to protect Ukrainian cultural heritage.

In July, the VMNH Archaeology Department hosted a community partnership event with Movie Town in Martinsville, VA. The partnership event was organized around the release of the new *Indiana Jones* film.

Professional Service

Dr. Bassett continued his duties as Vice President of the Board of Trustees for Falmouth Heritage Renewal, an international historic preservation non-profit. He also continued his appointment as a Research Associate at the Smithsonian Institution to support international efforts and contributions made through VMNH's new Cultural Heritage Monitoring Lab.

This quarter, Dr. Bassett and VMNH staff archaeologist Madeleine Gunter Bassett continued to fulfill their duties in the Archaeological Society of Virginia (ASV) and Council for Virginia Archaeologists (CoVA). 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.

From May to July, Dr. Bassett was consulted on 4 occasions by VA state agencies, US federal agencies and international institutions to implement his technical methods for using satellite imaging and remote sensing to document ground disturbance, and/or destruction of cultural heritage in conflict zones and after natural disasters. The consultations included contributions of technical and policy-related expertise, as well as in-person delivery of training. This included technical consulting for cultural emergency response with FEMA, Smithsonian, and Cultural Emergency Response (CER).

Adam Pritchard, Ph.D.
Assistant Curator of Paleontology

- Dr. Pritchard presented on his Triassic Virginia fieldwork for the Denver Museum of Nature & Science Geosciences seminar. He also worked on an ongoing collaborative project on Triassic reptiles by visiting the DMNS collections and assisting in identifying new specimens.
- Dr. Pritchard presented on Petra the Cave Cat for the Southwest Virginia Master Naturalist chapter. He discussed collaborative work with the Virginia Department of Natural Resources for identifying and developing plans for cave fossil discoveries by state government teams.
- Dr. Pritchard collaborated with teams from Virginia Tech, Columbia University, and the Smithsonian Institution on three abstract submissions on Virginia Mesozoic fossils for the Society of Vertebrate Paleontology 2023 meeting.
- Dr. Pritchard began the 2023 Wyoming Dinosaur Project field trip to Wyoming. This year was the first of the project funded by the National Science Foundation, which funded all Virginia Museum of Natural History expenses. The team included six students from University of Lynchburg and the College of William & Mary; the University of Lynchburg students were paid stipends through the NSF grants and will begin VMNH-focused project-based internships in Fall 2023.

Research & Collections

Dr. Pritchard collaborated with US Forest Service personnel on a field trip to the Clinch River District. The team consisted of two USFS scientists and two interns. They recovered a number of excellent Carboniferous (~325 million-year-old) plant specimens: some of the best-preserved ever discovered in Virginia.

Dr. Pritchard developed a plan and installed new shelving and redeveloped the paleontology jacket storage area with technician Lucy Treado.

Dr. Pritchard worked with the other members of the VMNH curator team to identify and collect specimens from the Womack Family collection: a decades-old collection of natural history specimens. Dr. Pritchard's new acquisitions included fossil specimens from Virginia and northern North Carolina and casts of skulls and skeletons for education.

Dr. Pritchard and paleontology technician Lucy Treado purchased new stereoscopes and equipment for the fossil preparation laboratory. The stereoscope will allow expanded capacity for the preparation of the Petra Cave Cat specimen.

Dr. Pritchard and BYU professor Dr. Brooks Britt began a new manuscript describing a series of complete Triassic reptile skeletons from southern Utah.

Education & Outreach

Dr. Pritchard, paleontology technician Lucy Treado, and intern Kayleigh Long organized and presented a table display on fossil invertebrates for the 2023 Reptile Festival at the VMNH.

Dr. Pritchard developed fossil prospecting trips for the participants of the 2023 Wyoming Dinosaur Project expedition. The trips took the students and volunteers to the 250-million-year old Chugwater Formation and the 100-million-year-old Cloverly Formation. They recovered a number of new Wyoming invertebrate specimens during the Chugwater trip.

Dr. Pritchard, Dr. Brooke Haiar, and technician Lucy Treado excavated a largely complete skeleton of a long-necked dinosaur from the Two Sisters 3 Quarry. Specimens removed from the site included a largely complete forelimb, several tail vertebrae, and hindlimb bones.

Dr. Pritchard collaborated with New College Institute technicians on a 3D model of a *Lepidodendron* tree trunk for the Wonder Universe display. The display is part of a collaboration with Roanoke College professor DB Poli.

Dr. Pritchard presented on the VMNH collections to a group of 25 Fairfax County Public Schools students and two public school educators.

Dr. Pritchard identified fossils for 3 Martinsville/Henry County residents.

Grants & Funding

Dr. Pritchard collaborated with Howard University professor Ray Bernor and his HU team on a revised submission of their National Science Foundation grant submission about horse evolution, intending for a Fall 2023 submission. The grant would fund a VMNH special exhibit on the evolution of horses. Dr. Pritchard provided resources and content regarding the integration of molecular data into the phylogeny.

Exhibits

In collaboration with paleontology technician Lucy Treado, Dr. Pritchard developed a table display about dinosaur-age reptiles for the 2023 VMNH Reptile Festival.

Arianna Kuhn, Ph.D.
Assistant Curator of Herpetology

- Dr Kuhn and collaborators had a paper published at *Ecology and Evolution* (Impact Factor: 3.167).
- Dr. Kuhn and collaborators had a paper published in the *Biological Journal of the Linnaean Society* (Impact Factor: 2.277).
- Dr. Kuhn gave a talk at the Joint Meeting of Ichthyologists and Herpetologists in Norfolk, VA.
- Dr. Kuhn submitted a grant with collaborators requesting \$38,940 from the U.S. Diplomacy fund in Madagascar and the Comoros.
- Dr. Kuhn submitted a grant to The Herpetologists' League Raymond D. Semlitsch Research Award.
- Dr. Kuhn and collaborators are drafting an NSF pre-proposal for an upcoming grant on salamander systematics.
- The Herpetology department is currently supporting two undergraduate interns in collections-based research projects.
- Dr. Kuhn designed and taught a hands-on class for the Lynchburg Governor's School on identifying snake and salamander specimens.
- Dr. Kuhn is co-organizing and hosting the Virginia Herpetological Society meetings at the VMNH for Fall 2023.
- The Herpetology Department launched the first VMNH digital voucher database for Herpetological specimens to support external researchers and publications.

Research & Collections

Peer reviewed publications

Drs Kuhn (VMNH), Burbrink FT (AMNH), Ruane S (FMNH), Raxworthy C (AMNH), Rabibisoa NHC (UAntananarivo, Madagascar), and Achille R (UAntananarivo, Madagascar) had a paper published at *Ecology and Evolution* (Impact Factor: 3.167). The paper uses genomic data and evolutionary modeling to explore the relationship between Speciation rates and formation of population structure using Malagasy Gemsnakes as a case study.

Drs Kuhn Kizirian, Campbell, Donnelly, Overcast, Padiá, Povenika, Quitian, Saporito, and Segall had a paper published in the *Biological Journal of the Linnaean Society* (Impact Factor: 2.277) entitled "*Feedback in Batesian mimetic systems*".

Drs Kuhn (VMNH), Schiebelhut LM, Guillaume AS, Schweizer RM, Armstrong EE, Beaumont MA, Byrne M, Cosart T, Hand BK, Howard L, Mussmann SM, Narum S, Rasteiro R, Rivera-Colón AG, Saarman N, Sethuraman A, Taylor HR, Thomas GWC, Wellenreuther M, and Luikart G. had a paper accepted with major revisions at *Molecular Ecology Resources* (Impact Factor 8.678) entitled "*Practical guidance in conservation genomics: from study design to application*" that reviews best practices for conservation biologists using genomic data in their research.

Ongoing research

Dr. Kuhn began a new collaboration with Dr. G. Jongsma Assistant Curator of Zoology at the New Brunswick Museum and V. Gvozdik to examine responses to past climate fluctuations in frogs across central Africa. Plans for this project are currently underway, and the project will officially proceed in the fall after initial meetings in late August.

Drs Kuhn and B. Stuart (NCMS) began a new collaboration with S. Kuchta at the University of Ohio to collaboratively investigate the systematics of Wehrlei's plethodontid salamanders in southwest Virginia using genomics data and morphology. This work will also support undergraduate research at the University of Ohio.

Dr. Kuhn and collaborator B. Stuart (NCMS) from the North Carolina State Museum of Natural Sciences have obtained genetic sequence data for 24 specimens a project to delimit two putatively new species within this complex endemic to southwest VA using molecular and morphological data.

Drs Kuhn (VMNH), Burbrink FT (AMNH), Ruane S (FMNH), Raxworthy C (AMNH), Rabibisoa NHC (UAntananarivo, Madagascar), Achille R (UAntananarivo, Madagascar) and Overcast I (UMaine) are working on a manuscript that uses genomic data to examine the co-demographic history of snake assemblages on Madagascar using newly developed phylogeographic methods. The target journal for this manuscript submission is *Molecular Ecology*. Significant progress has been made this quarter and submission is expected by Sept 2023.

Drs Kuhn (VMNH), Lee-Yaw J (UOttawa) and Weisrock D (UKentucky) are analyzing data and preparing a manuscript and provincial report resulting from Dr Kuhn's postdoctoral research that uses genomic data to provide critical insights in the guidance of successful amphibian reintroductions. This work integrates spatial, ecological, and genomic data with careful study design to provide the best opportunity for successful protected species' reintroductions. The target journal for this manuscript is *Biological Conservation*. Weekly zoom meetings are conducted to support progress on this project.

Drs Kuhn (VMNH), Lee-Yaw J (UOttawa), and Weisrock D (UKentucky) along with Master's student Hunter D (ULethbridge) are working data analysis and manuscript are analyzing data and preparing a manuscript and provincial report resulting from Dr Kuhn and D Hunter's field and laboratory work at the University of Lethbridge and Waterton Lakes National Park in southwest Alberta, Canada. This research uses genomic data and occupancy modeling to investigate the impact of an extreme fire in a national park on genetic diversity over space and time for small terrestrial vertebrates. The target journal for this manuscript is *Conservation Biology*.

Drs Kuhn (VMNH), Lee-Yaw J (UOttawa) and Weisrock D (UKentucky) are analyzing data and preparing a manuscript resulting from Dr Kuhn's postdoctoral research that uses genomic data to understand the role of refugial dynamics in driving intraspecific amphibian divergence in the Pacific northwest. The results of this study will underscore the importance of wide-ranging taxa to understanding the role of LGM dynamics in promoting amphibian diversity in this region which has been understudied from a phylogeographic perspective. The target journal for this manuscript is *Journal of Biogeography*.

Drs Kuhn (VMNH), Bauer AM (VillanovaU), Jackman T (VillanovaU), and Brennan I (Natural History Museum in London) are finalizing a manuscript entitled "*Rhoptropus*

day geckos support the antiquity of the Namib". This study identified several new species from Angola and Namibia, and estimates the diversification history and speciation of endemic terrestrial Namib day geckos from the pro-Namib region. The diversification of this group provides insight into the role of historical climate change in shaping regional biodiversity in the Namib Desert. The target journal for this manuscript is the *Biological Journal of the Linnean Society*. Significant progress has been made this quarter and submission is expected by Sept 2023.

Field work

Drs Kuhn (VMNH) and B. Stuart (NCMNS) and M. Boyd (VMNH) obtained permission for fall collecting at Smith Mountain Lake preserve and other private land areas to get morphological and molecular vouchers of putatively new species of Plethodontid salamanders in the *P. wehrlei* complex. These collections will serve as vouchers for molecular and morphological analyses to determine the evolutionary uniqueness of these populations in an ongoing study. At present, molecular sequence data has been obtained for all vouchers collected, and has confirmed the uniqueness of the putatively new lineages.

Dr. Kuhn and M. Boyd participated in the Eastern Spadefoot Toad (*Scaphiopus holbrookii*) summer survey in Virginia led by J. Gibson (Patrick & Henry Community College). The study aims to define the peripheral extent of populations in Virginia to determine where the species has been extirpated due to habitat destruction.

Professional Presentations/Conferences

Dr. Kuhn submitted an abstract to the SouthEastern Population Ecology and Evolutionary Genetics Conference (SEPEEG) that will take place September 22–24 at Mountain Lake Biological Station. The goals of this conference will be networking, disseminating her research program at the VMNH, and attending conference talks on relevant research in evolutionary genomics, comparative phylogeography and population genetics.

Dr. Kuhn attended and gave a talk at the Joint Meeting of Ichthyologists and Herpetologists (JMIH) 2023 in Norfolk, VA (July 12–16). Her talk, entitled "*Historical climate change structures contemporary patterns of diversity in widespread insular snakes*" discussed her work at this conference, she participated in networking, disseminating her research program and the programs of the VMNH, and attending conference talks on relevant research in herpetological evolution and conservation.

Dr. Kuhn has been invited to give a seminar at the University of Richmond on October 2, 2023. During this visit, she will also meet with two other labs, R. De Sa and K. Grayson, to discuss student research and career trajectories. The talk title is TBD, but aims will incorporate discussion about Dr. Kuhn's role at the Virginia Museum of Natural History and curatorial career paths.

Professional Development

Dr. Kuhn attended a workshop entitled "*Engaging Undergraduates in Monitoring Salamanders*" to learn dissemination of teaching modules from the SPARCnet network.

These modules are intended for students and Master Naturalists to foster appreciation of terrestrial salamanders, their biology, and their role in forest ecosystems, learn how to analyze salamander census data and understand value observational and experimental studies in coordinated research networks.

Dr. Kuhn and M. Boyd attended a virtual 2-day Natural History Education DemoCamp through the Society for the Preservation of Natural History. This workshop fostered collaboration among global leveraged as hands-on, engaging teaching tools for all ages.

Collections Growth and Management

The Herpetology department acquired and is in the process of accessioning 25 new taxidermy and dry mount specimens from a donation by the Danville Science Center.

Research technician M. Boyd cataloged 19 new records to the Herpetology database, and several additional specimens will continue to be added to this growing catalog.

Dr. Kuhn, M. Boyd and J. Harris developed the first digital photo voucher database for Herpetological specimens. ALready, two Virginia-based researchers have used this catalog to verify and database photographic records of unique species occurrences for use in scientific publications.

Dr. Kuhn and M. Boyd are processing and preserving 25 new herpetological specimens from colleague and research associate J. Gibson (Patrick and Henry County Community College). Currently, all records have been accessed, and voucher samples will be taken in early August 2023.

M. Boyd is documenting, organizing, and integrating the educational specimens of J. Mitchell into the VMNH collections as a permanent education and outreach resource regarding species uncommon or absent from Virginia. This project continues to expand the VMNH collections beyond the borders of VA and even include globally distributed species as well as larger specimens for use in future exhibits, displays, and science outreach.

M. Boyd secured 22 research specimen donations from Laurel Ridge College including fluid preserved salamanders and dry rattlesnake skins. Currently, these specimens are still being processed and donation paperwork being filed.

Dr. Kuhn and M. Boyd launched and continue to build up the Herpetology Ambassador Animal Program to include one lizard, three snakes and two frogs. The program helps introduce community members to species of reptile and amphibian to share value and foster appreciation of these often ignored constituents of our local ecosystems.

Grants

Drs. Kuhn and S. Ruane received confirmation of funding support from the Feay Field Research Fund at the Field Museum of Natural History to sponsor their joint work entitled "*Documenting the Diversity of Reptiles and Amphibians in Madagascar*". Support from this fund will allow three years of collection-based work in Madagascar, along with opportunities to train students, conduct workshops, and build collaborative

networks with Malagasy non-profit Association Vahatra.

Dr. Kuhn submitted a grant with collaborators S. Ruane, F. Rakotoarimalala and S. Goodman on July 15th. The grant requested \$38,940 to support a project entitled “*Building Capacity for Conservation in a Global Biodiversity Hotspot*”. The project aims to provide training in emerging conservation methods to Malagasy graduate students and researchers with a focus on developing skills in emerging technologies and bioinformatics, giving priority to women and other disadvantaged groups underrepresented in STEM fields in Madagascar. The program will include field-based experiences, cutting-edge molecular biology lab techniques, and bioinformatics processing with the goal of putting necessary tools for improving biodiversity conservation in the hands of local scientists, researchers, and conservation practitioners.

Dr. Kuhn submitted a grant on May 31, 2023 to The Herpetologists’ League Raymond D. Semlitsch Research Award for funds to support regional work on the systematics of salamanders. The proposal, entitled “*Integrating molecular and morphological data to investigate the enigmatic “southern lineage” of Wehrlei’s salamander from the North Carolina-Virginia border*” requested \$5,000 for support of molecular data collection.

Drs. Kuhn, T. Pettelier (Radford University), and M DeBiasse (Radford University) have begun drafting an NSF Pre-proposal for a new collaborative project that will investigate species boundaries and reproductive isolation in salamanders using an integrative approach with genomic data, expression of courtship pheromones and skin microbiome profiles. The pre-proposal will be submitted by the end of August, 2023 for feedback from NSF DEB program officers.

Education & Outreach

VMNH-based Activities

Dr. Kuhn and M. Boyd and Herpetology intern M. Burnette designed and hosted two new Herpetology tables at VMNH’s 2023 Dino Festival. Dr. Kuhn and M. Boyd designed education materials for a herpetology-focused booth, which highlighted extinct reptile fauna and contemporary counterparts. The event, which brought a new audience of both young and adult individuals to the museum, attracted over 4,200 visitors.

Dr. Kuhn gave a tour to a visiting group of 40 community members from Waynesboro, VA on June 30. Individuals toured several of the collection spaces and laboratories to gain understanding of the work the VMNH aims to support in the new Waynesboro facility.

Dr. Kuhn gave a tour of the herpetology department and research collections to Dr. R. Hudson of the Fort Worth Zoo and co-founder of the Turtle Survival Alliance nonprofit organization.

Dr. Kuhn gave a tour to Dr. M. Close (Radford University, VA). This tour and meeting

aimed to establish collaborative projects across both institutions to support students interested in helping to identify salamanders from the Herpetology Collections.

M. Boyd gave a tour of the VMNH Research Collections to two visiting collections staff from Smithsonian Institute, DC.

Dr. Kuhn gave a tour to undergraduate student W. Martin (Patrick and Henry Community College).

Dr. Kuhn and M. Boyd gave a tour to 3 groups (15 individuals per group; 45 individuals total) VMNH summer camp students, and led an excursion to Wilson's Park (M. Boyd) to help students find and identify local salamanders.

Dr. Kuhn and M. Boyd gave a laboratory tour to the Eastman Performance Film interns and HR support staff (total of 20 individuals) on July 18, 2023.

Non-VMNH based Activities

Dr. Kuhn acted as a ASIH student conference mentor at the Joint Meeting of Ichthyologists and Herpetologists (JMIH) 2023. Duties associated with this role were to work with an assigned group of undergraduate and graduate students before, during and after the conference to aid them in networking, professional development, career preparation, and overall navigation of the conference environment.

Dr. Kuhn acted as a judge for the Herpetologists League Graduate Student Award Presentations at the Joint Meeting of Ichthyologists and Herpetologists (JMIH) 2023. For this role, Dr. Kuhn attended student talks and provided feedback for all presenters, and collaborated with two other judges to award one student a \$700 award, and a runner up with a \$200 award.

Dr. Kuhn and undergraduate student D. Winesenki submitted a proposal to the Undergraduate Research Award to support student participation at Evolution 2024 in Montreal, CA. D. Winesenki was awarded \$3,000 to support his travel, registration and accomodation at the conference next year to present their joint research project "*Drivers of amphibian community assembly in North America*".

Media

Dr. Kuhn will act as a consultant and be featured in an upcoming Scholastic book entitled "*Reptiles are Awesome!*" which will highlight her experiences with reptiles in the field and in museums.

Professional Service

Dr. Kuhn served as a reviewer for the *Zoological Journal of the Linnean Society* entitled "*Systematics and biogeography of a Sunda-Papuan snake lineage (Natricidae: Tropidonophis Jan, 1863)*".

Dr. Kuhn is serving on the organization committee for the Charles Camp 2023 Meetings to be held at the American Museum of Natural History November 2023. All speakers have been invited and abstracts are currently being selected for the final conference.

Dr. Kuhn is serving on the organization committee and hosting for the Annual Virginia Herpetological Society Meeting. For the first time, the meetings will be hosted at the VMNH and over 50 attendees are anticipated to attend for a full day of herpetological talks, meetings, raffles to support the society, and an academic social event.

Dr. Kuhn is serving as counselor for the Virginia Natural History Society.

Dr. Kuhn is serving as Associate Editor at *Herpetologica* in the topic area of Systematics. At the Joint Meeting of Ichthyologists and Herpetologists 2023, Dr. Kuhn held a meeting with AE's Dr. B. Stuart (North Carolina Museum of Natural Sciences), Dr. S. Woodly (Duquesne University), S. Mullin (Arkansas State), and A. Matthis (Missouri State) to discuss the journal's progress and plan symposia and special issues for 2024 meetings.

Dr. Kuhn is serving as an Associate Editor for the *Herpetological Journal* (the journal of the British Herpetological Society).

Teaching

Dr. Kuhn designed and taught a hands-on educational activity for the Lynchburg Governor's School that showed how dichotomous keys can be used in species identification using real snake and salamander specimens from the Herpetology Collections. This hands-on activity was taught using museum specimens to 61 students on 19th, 2023.

M. Boyd designed and taught a hands-on educational activity for the Lynchburg Governor's School that shows how loss of forested areas impact migratory bird occupancy. This hands-on activity was taught using museum specimens to 60 students on 19th, 2023.

Dr. Kuhn is preparing a workshop entitled "RADcamp: Assembly, filtering and analysis of RADseq data" which will be disseminated at the Field Museum of Natural History. The 3-day workshop will be attended by 30 students August 20–23 by postdoctoral fellows, and professionals interested in learning methods associated with analyzing and processing genomic data using python and r programming languages.

Dr. Kuhn and M. Boyd designed and are disseminating a workflow in the Herpetology department to sort, identify, digitize and map unidentified herpetological specimens from former pitfall trap studies to facilitate a hands-on educational experience in the VMNH collections aimed at expanding the Herpetology Database and Record Files. This work will add data for 900+ specimens to the Herpetology collections and produce maps to identify regional strengths and sampling gaps to guide future collection efforts. This workflow is being used to mentor Herpetology intern M. Burnette (Roanoke College) and J. Kuhn (Eckerd University) in summer research projects.

Research and Collections

Jill K. Harris, Registrar

Nineteen (19) collections acquisitions were recorded for over 1950 specimens and 65 vials. These specimens were added to the invertebrate zoology, paleontology, herpetology, vertebrate zoology, and education collections.

Six (6) outgoing loans were recorded this quarter from paleontology, mammalogy, and invertebrate zoology collections. Loans were made to: Lewis & Associates, LLC; University of Washington; West Virginia University-Wild Genomics Lab; Smithsonian Marine Station; Smithsonian National Museum of Natural History, and the American Museum of Natural History.

Haley Cartmell, Collections Manager

Curators and staff modified/updated 3,397 existing records and added 485 new records to the VMNH collections databases Proficio (all museum collections) and EGEMS (paleontological collections only).

# of Activities	TYPE OF ACTIVITY	PROFESSIONALS AND 13+ STUDENTS	K-12 STUDENTS	K-12 TEACHERS	PUBLIC			TOTAL #	
2	Conference presentations (A)	30	0	0	0			30	
1	Meetings chaired (B)	6	0	0	0			6	
5	Review documents/manuscripts (B)	5	0	0	0			5	
3	Requests for information about collections (C)	3	0	0	0			3	
1	Visiting researcher (C)	1	0	0	0			1	
7	Collections tours (D)	30	21	14	39			104	
1	Lab Tours (D)	35	0	0	0			35	
0	Receptions	0	0	0	0			0	
9	Responses to requests for information about specimens at VMNH (D)	9	0	0	0			9	
4	Lectures and presentations at VMNH (D)	127	0	0	0			127	
1	Technical consultations (B, D, & E)	1	0	0	0			1	
8	Display table with specimens	0	0	0	3085			3085	
0	Off-site education programs	0	0	0	0			0	
4	Lectures Not at VMNH (E)	850	0	0	1123			1973	
1	Off-site presentations (E)	0	13	0	48			61	
1	Field trips/Field Work	7	0	0	0			7	
48	TOTALS							5447	

TOTAL # INDIVIDUALS SERVED

5447

VIRGINIA MUSEUM OF NATURAL HISTORY (VMNH)

COLLECTIONS POLICIES

11 August 2023 draft for Research & Collections Committee Vote

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PREFACE

As the governing authority for the Virginia Museum of Natural History (VMNH), the Board of Trustees is ultimately responsible for the protection and enhancement of the Museum's collections (primarily specimens, as well as documents, and all associated data). Throughout this document “specimens” refers to biological, geological, paleontological, or archeological objects, items, tissues, or materials; replicas, casts, models; items created and managed in digital form; and any parts thereof, that fall within the disciplinary scope of the Museum’s collections.

The Collections Policies govern the development, safety, and management of the Museum’s holdings, whether they are part of the permanent collections or on temporary loan. The Research and Collections Committee of the Board of Trustees is responsible to the Board for the needs of the Museum's collections.

The VMNH Executive Director is responsible for implementing the Collections Policies and to do so, may delegate authority to various members of the Museum's staff. The Collections Committee is a standing committee of staff members appointed by the VMNH Executive Director for the purposes of (1) assisting in the development and revision of policies governing the Museum's collections and (2) serving as a review committee to recommend actions pertaining to collections acquisitions, management, use, and disposal. The Committee gathers and reviews information pertaining to the collections in light of existing research and collection development priorities, as well as available museum resources. The Committee recommends actions but does not have the final authority concerning these activities. The Committee will consist of the Collections Manager, all Research Curators, Registrar, and the Manager of the VMNH’s Department of Education and Public Programs (DEPP). The Committee will meet quarterly.

The Collections Committee is responsible for implementing procedures to ensure the development and care of the collections and their records in accordance with the Collections Policies. It is the Committee’s responsibility to suggest revisions in the Collections Policies as needed and present them to the VMNH Executive Director, and the Research and Collections Committee of the Board of Trustees for consideration.

Standard definitions for terms used in these policies are included in Appendix I.

I. Purpose and Ownership of Collections

The Museum’s collections are developed to fulfill the mission and purposes of the VMNH as established by the Virginia Code (see Appendix II), subsequent state legislation, and the Board of Trustees. The mission of the VMNH is "to interpret Virginia's natural heritage within a global context, in ways that are relevant to all citizens of the Commonwealth" (July 1990). The legislated purposes for the museum are listed in Appendix II.

The collections are the property of the Commonwealth of Virginia, held in trust for the public. Collections obtained through funding or other means provided by the Virginia Museum of Natural History Foundation also become property of the Commonwealth.

II. Description of Collections

A. Scope - The current disciplinary scope of research collections maintained by the VMNH encompasses the fields of biology, geology, paleontology, and archaeology. Expansion of the disciplinary scope of the collections beyond the expertise of Research and Collections staff would require an explicit commitment by the Board of Trustees to provide adequate resources to care for and utilize the additional collections. Education collections represent all aspects of natural history that are appropriate to the educational mission of the Museum. All the VMNH holdings are under the direct supervision of either a Research Curator or the Manager of DEPP.

The geographic scope for collection development is prioritized as follows: collections of Virginia origin, collections from the Eastern United States and its coastal waters, and collections from other regions of the world that support research and educational projects relevant to the purposes of the VMNH.

B. Development and Growth - The collections grow not only to fulfill immediate, specific needs of staff research scientists, but to obtain an adequate representation of Virginia's natural and cultural heritage for future research and educational needs. Thus, plans to guide the development of the VMNH collections should address both issues.

It is the responsibility of each research department and DEPP to develop taxonomic, geographic and programmatic priorities to guide the growth and development of the VMNH collections. These priorities should be an integral component of departmental long-range plans and developed on the basis of a department's research and teaching activities, programmatic goals, and the Museum's mission to preserve natural history collections. The priorities shall be reviewed annually by the curatorial staff and the Collections Committee. Departmental priorities will be forwarded to the VMNH Executive Director and the Research and Collections Committee of the Board of Trustees for informational purposes.

C. Categories of Collections - Collections are maintained by the research departments and by DEPP for research as well as use in education and exhibits. Specimens in these collections are defined by their relative significance for research and education and by the levels of supervision required for care and maintenance:

1) Strict Supervision - these include specimens of greatest value for research purposes. They demand the highest level of supervision for use, management and conservation practices and the greatest security. These are frequently referred to as the "permanent collection" of an institution and are appropriate for indefinite retention. Primary types and paratype specimens are included in this designation.

2) Moderate Supervision - these include good quality specimens for use as reference material by the general public, for exhibit, for exchanges or for instructor use in educational programs. They demand supervised handling and careful management practices, but the restrictions on use are not as strict as with the first category.

3) Low Supervision - these include specimens that require minimal or no supervision for handling. This category includes specimens that have been deemed of no value for research or exhibit purposes as well as "hands on" material that may be used for teaching or exhibition purposes. Given the potential for

damage and loss of these specimens, these collections are not accessioned by the VMNH but are inventoried for management purposes.

It is the responsibility of the Research Curator or Manager of DEPP, in consultation with appropriate staff, to recommend the designation of departmental specimens to these categories. These designations can change over time and will guide decisions concerning how the specimens are used. The coded designation is entered into the main catalog as a separate field which can be edited if a specimen's status is changed.

III. Standards of Conduct

A. General - Through their personal and professional conduct, trustees, employees, non-paid associates, and volunteers are obligated to perform all collection-related activities for the benefit of the public and not just toward the advancement of personal interests. Collection activities should be conducted in such a manner as to prevent unnecessary damage to natural and cultural resources and to fulfill the mission of the VMNH.

Trustees, employees, non-paid associates, and volunteers should not improperly use any specimen that is part of the Museum's collections. No employee or trustee may participate in any dealing (buying and selling for profit) in specimens similar or related to the specimens collected by the Museum.

The policies stated herein are in addition to the Museum's conflict of interest policy (Appendix III).

B. Professional Society Codes of Ethics - Trustees, employees, and non-paid associates will make every reasonable effort to adhere to the intent of guidelines and codes of ethics developed by professional societies for the collection, use, management, and conservation of specimens. A partial list of these guidelines is included in Appendix IV.

C. Personal Collecting - It is acknowledged that the acquisition, ownership, and management of a personal collection of specimens can enhance professional knowledge and judgment. However, personal collecting by Museum trustees, employees, non-paid associates, and volunteers at a minimum involves the appearance of a conflict of interest and sometimes an actual conflict of interest with the Museum. These policies apply to specimens added to a personal collection that fall within the disciplinary scope of the Museum's collections as described.

Museum trustees, employees, non-paid associates, and volunteers holding personal collections shall not compete with the Museum for specimens. They shall not use information that may be acquired only in the course of their duties and that is not generally known or available to the public, to acquire specimens for personal collections. They shall make every effort to become familiar with pertinent legal statutes and ethical guidelines developed by professional societies and apply these guidelines to their personal collections. They shall not deal (buy and sell for profit) in specimens that fall within the disciplinary scope of the Museum's collections.

A description of personally owned collections shall be submitted using the Personal Collection Disclosure Statement (Appendix V) as a condition of assuming employment or an appointment and shall be filed every five years while employed by the Museum or completing an appointment. These statements, when specimens are declared, shall be submitted to the VMNH Executive Director, Chair of the Research and Collections Committee of the Board of Trustees, and Chair of the Board of Trustees. Original copies of Personal Collection Disclosure Statements will be maintained with Museum collections records by the Registrar.

It is incumbent upon trustees, employees, non-paid associates, and volunteers to notify the VMNH administration and Chair of the Board of Trustees and the VMNH Executive Director of any potential areas of conflict of interest with regard to the personal collecting policy.

Any appearance of a conflict of interest pertaining to personal collecting, should be brought to the attention of the Chairs of the Board and the Research and Collections Committee of the Board, and the VMNH Executive Director. These individuals have the responsibility to ask questions in the event that a potential conflict appears to exist and are obligated to request a more detailed study of the situation.

D. Appraisals - Appraisals of privately-owned specimens commit the museum's resources to private, not public benefit. Therefore, employees may prepare appraisals only for internal use and with the approval of the VMNH Executive Director, for other nonprofit institutions.

IV. Acquisitions

A. General Considerations - The quality of the VMNH collections must be continually improved by the responsible addition of new research specimens in order to support the goals of the Museum to maximum advantage.

Limitations in physical space and financial resources make it clear that the Museum cannot engage in indiscriminate acquisitions. Therefore, priorities for the acceptance of new acquisitions must be established, followed, and constantly monitored. One of the best methods of growth control is refusal of unsatisfactory material as determined by the criteria established in these policies.

Specimens are added to the collections in a variety of ways, including field work, salvaged materials, transfers from other institutions and state agencies, purchases, gifts, bequests, and exchanges. Regardless of the original intent of the acquisition, all specimens acquired by the VMNH will be subject to the Collections Policies. Only materials that support the collection goals of the Museum and individual research departments or DEPP will be acquired. The VMNH will not accept specimens offered with restrictions on use that might interfere with the mission and goals of the Museum. Specimens offered with restrictions will require special consideration and approval by the Board of Trustees. Specimens offered with declared value are first processed by the VMNH Foundation, an independent non-profit that conducts work on behalf of the VMNH. The VMNH Foundation may then transfer the donated specimens to the Museum, to be processed according to the VMNH collections policies.

Occasionally, collections of importance or extraordinary significance unexpectedly become available; therefore, the acquisition of specimens is sometimes opportunistic. Acceptance of responsibility for such collections may involve establishing a new interest area for the Museum. Acquisition of such collections must be judged individually, carefully weighing the values and costs of such acquisitions against the goals, ongoing programs, and strengths of the Museum.

The following criteria shall be considered during the evaluation of a specimen or group of specimens as potential acquisitions:

- 1. Collection Priorities** - Is the specimen or collection consistent with the collection priorities of the Museum and the research department or DEPP as described in the Collections Policies?
- 2. Uniqueness** - Is the specimen or collection so unusual that it presents an exceptional opportunity for the Museum and thus should be given preferential consideration?
- 3. Legality** - Does the transferor have the full and clear legal title or the right to convey full and clear legal title to the specimens and all associated materials offered? Was the collection obtained and imported legally? Is documentation to that effect satisfactory?
- 4. Ethical Considerations** - Was the specimen or collection obtained ethically? Was adequate consideration given to the rights and beliefs of the culture of the originating locality? Were private landowners and responsible governmental entities adequately consulted and fully informed of collecting activities?
- 5. Documentation** - Is there adequate scientific documentation accompanying the specimen or collection? If not, is there some extraordinary reason, such as excellent example for exhibit, few in existence, etc., to justify adding it to the collections? Is the provenance of the specimen(s) adequately documented?
- 6. Physical Integrity** - Will the current physical condition of the specimen(s) permit immediate use as intended? If not, to what extent will additional preparation or conservation be required? Are sufficient physical, personnel, and monetary resources available to care for the specimen(s) once accepted by the VMNH?
- 7. Resource Impact** - How will the acceptance of this specimen or collection impact future expenses of the Museum (e.g., personnel, processing and maintenance costs, space needs, collection storage equipment, and conservation needs)? It is the responsibility of those recommending acquisitions to provide accurate estimates of this and to consult with and include the opinions of all affected departments in the museum. These estimates should include costs of any outside help needed to advise the VMNH on the cost of acquiring and maintaining the collection.
- 8. Cost** - If the specimen or collection is offered for sale to the Museum, could comparable specimen(s) be obtained by gift or bequest?

9. Encumbrances - Is the specimen or collection encumbered with unusual conditions set by the donor? Is it offered as a "permanent loan" or long-term loan? Is its use restricted or encumbered by intellectual property (e.g., copyright, patent, trademark, trade name)? Is its use restricted or encumbered by its nature (e.g., representative of an extinct or endangered species, physically hazardous, defamatory, obscene)?

10. Commercialism - Will acceptance appear to or give rise to commercial exploitation (e.g., purchase of skeletal materials from a dealer)?

B. Legality - The Museum will not knowingly accept or acquire specimens that have been illegally collected or imported into the United States. Every reasonable effort will be made to ensure that specimens considered for acquisition have been collected and imported in full compliance with state, federal (including the Native American Graves Protection and Repatriation Act), foreign, and international statutes. It is the responsibility of Museum staff to inform themselves of and comply with pertinent laws. If Museum staff needs assistance determining the legality of a specimen or collection, a request for information or support can be directed through the Registrar who will forward it as needed to the VMNH Executive Director. If necessary, Museum legal counsel may be consulted on this issue.

C. Protection of Natural and Cultural Resources - The Museum must strive to preserve and guard the natural and cultural heritage of the world. Therefore, the VMNH will refuse specimens if it has reason to believe that their collection caused or contributed to the recent destruction of a population of a species, a community of organisms, habitats, sites, or monuments. The Museum may also refuse to accept specimens collected in such a way as to impair their scientific value (e.g., archaeological and geological specimens taken without proper recording of stratigraphic and site data or biological specimens with inadequate documentation, unless the specimens are clearly specified for use in which these data are not needed). It is the responsibility of the staff person to whom a specimen has been offered to make a reasonable effort to ascertain from the circumstances surrounding the transaction or knowledge of the specimen's provenance that the original collecting was performed appropriately.

D. Intended Use and Documentation - It is the responsibility of the Research Curator or Manager of DEPP to identify the intended use(s) of the specimens offered. The Research Curator or Manager of DEPP is responsible for determining whether the quantity and quality of data and provenance for such specimens are sufficient for their intended use.

E. Physical Integrity - The Museum will not accept specimens for which it cannot provide adequate storage and care. Information concerning additional preparation or conservation treatment needed to permit use of the specimen as intended as well as thoughtful estimates of financial and staff resources required must be presented during the acquisition approval process.

F. Conditions of Acceptance - The Museum will not guarantee to a donor that specimens will be retained permanently by the Museum, that they will be exhibited permanently, or that they will be kept together in storage as a single group. However, it is recognized that situations arise where conditions that would not interfere with the mission and goals of the Museum are placed on specimens by the transferors. Examples of such a situation might be specimens received from Federal museums or agencies that are not allowed by law to transfer the title of such specimens.

Specimens offered with contingencies must be approved according to standard procedures (Section H). In addition, a written agreement should be prepared describing the restrictions placed on the transfer of specimens as well as the responsibilities of both the transferor and Museum. The agreement should be signed by both the VMNH Executive Director and the transferor. For acquisitions with an aggregate value of \$10,000 or more, the agreement shall be reviewed by legal counsel prior to submission to the Board of Trustees or any committee thereof and approved by the Research and Collections Committee of the Board of Trustees.

G. Appraisals for Acquisitions - It is the responsibility of the donor to have material appraised by a recognized independent appraiser. The Museum should recommend to the donor to consult appropriate Internal Revenue Service regulations and seek professional tax or legal counsel. The Museum will maintain appropriate records as required by IRS.

H. Acquisition Plans - All research departments and DEPP should develop taxonomic and geographic and programmatic priorities to guide the development of collections within that department, taking into consideration departmental projects (as described in previously approved Employee Work Plans) and efforts to develop the collection as a state repository. Each Research Curator/Manager of DEPP is also responsible for annually developing an acquisitions plan based on these priorities. The acquisitions plan should briefly summarize for each collecting effort the anticipated sites or sources of specimens involved, resources needed to prepare, register, and store the material, expected quantity of material, and individuals regularly associated with the effort. At the last meeting of each calendar year, the Collections Committee will review all acquisitions plans for the upcoming year, using each department's taxonomic, geographic and programmatic collection priorities to guide the review process.

During the year, the Research Curator/Manager of DEPP will provide descriptions of the material actually brought to the Museum as a result of these collecting efforts. Extreme departures from the approved acquisitions plan will be considered individually as potential acquisitions. Opportunistic field collecting will be treated as all other potential acquisitions.

I. Approval of Acquisitions - The acquisition process should support the practice of selective acquisitions to further the mission and goals of the Museum.

1. Initial Submission of Specimens for Review - Any trustee, employee, non-paid associate, or volunteer may recommend specimens as potential acquisitions. All specimens initially must be reviewed by the Research Curator that would ultimately be responsible for the specimens. It is the responsibility of the Research Curator or Manager of DEPP to obtain and prepare the documentation (e.g., Record of Incoming Material form, Site Visit form) necessary to permit a thorough review of the specimens based on the criteria established in section A. The Record of Incoming Material form and Site Visit form are included in Appendices VI and VII, respectively.

2. Recommendation by Research Curator or Manager of DEPP- The Research Curator or Manager of DEPP submits the potential acquisition and associated documentation to the Collections Committee along with a recommendation to accept or refuse the material.

3. Collections Committee Review - Potential acquisitions will be circulated among the Collections Committee for review on at least a quarterly basis, with additional meetings called as needed. Each committee member will review and vote on each potential acquisition in light of the

previously approved acquisition plan for that research department and DEPP. Based on a majority vote of the Committee, the Committee will recommend a course of action for the potential acquisition: acceptance, refusal, or postponement to obtain additional information. Votes are made verbally, in writing, by electronic mail, or by proxy. Reasons for refusal will be documented. If the Committee recommends refusal of the materials, the Research Curator or Manager of DEPP will be requested to provide additional information and justification for acquiring the specimens if he/she so desires. If after further discussion and consideration, the Collections Committee still recommends refusal of the material, a thorough presentation of all information concerning the potential acquisition will be presented to the VMNH Deputy Director by the Collections Committee and relevant Research Curator/Manager of DEPP proposing the acquisition.

4. Approval of Collections Committee Recommendations - All recommendations by the Collections Committee must be considered by the VMNH Executive Director. If the Collections Committee and the Executive Director disagree about a potential acquisition, information pertaining to that acquisition should be forwarded to the Chair of the Research and Collections Committee of the Board of Trustees with a thorough presentation of the disparate opinions.

5. Approval Authority - Specimens offered with a declared value are first processed by the VMNH Foundation, an independent non-profit that does work on behalf of the VMNH. The VMNH Foundation may then transfer the donated specimens to the VMNH, to be processed using the guidelines in these collections policies. Together, the Collections Committee and the VMNH Executive Director, through this review process, have the authority to approve all potential acquisitions with an aggregate value of less than \$10,000. A description of these acquisitions will be presented to the Research and Collections Committee of the Board of Trustees for informational purposes. The Research and Collections Committee of the Board of Trustees will review all potential acquisitions on behalf of the Board of Trustees. For acquisitions with an aggregate value of \$10,000 or more, all information should be reviewed by legal counsel and approved by the Research and Collections Committee of the Board of Trustees.

6. Denials and Reversals of Approval - The Research and Collections Committee of the Board of Trustees will review and document reasons for denials as well as for any reversals of decisions recommended by the Collections Committee or the VMNH Executive Director. Decisions by the Research and Collections Committee of the Board of Trustees to reverse recommendations should be reviewed by the entire Board of Trustees before becoming final. In such cases, a review panel comprised of three members chosen from the Board of Trustees would be formed to study the potential acquisition in question and report to the Board of Trustees. One member would be chosen by the Collections Committee, one member appointed by the Research and Collections Committee of the Board of Trustees and a third member, who will serve as Chairperson, selected by the other two panel members.

7. Acquisitions for Research - The majority of the VMNH specimens are acquired for research purposes. Therefore, these specimens require the greatest commitment of the VMNH research and collections resources (e.g., personnel, space, storage equipment, preparation equipment, etc.). The Board of Trustees recognizes its responsibility to provide resources to safeguard these valuable collections. In order to plan for and provide sufficient collections resources, it is critical that the Museum use the acquisition process to prevent indiscriminate acquisitions, regardless of their source.

8. Acquisitions for Exhibit Purposes or Public Programs - When planning an exhibit or program, it may happen that a specimen must be acquired from an outside source. If a specimen is acquired through purchase or donation for use in an exhibit or public program, this specimen will be reviewed by the appropriate scientific authority to determine whether or not its scientific value should preclude its use in an exhibit or public program. This review must occur no more than six (6) weeks after the specimen has been made available to the appropriate Research Curator.

If the specimen is determined to be of sufficient scientific value that the appropriate Research Curator deems it necessary to accession it as a research specimen, they must (1) promptly notify the staff person who acquired the specimen and (2) provide a written justification for accessioning the specimen as a research specimen. This justification will be presented to the Manager of the responsible department, the Collections Committee, and the Executive Director. A decision to accession or not will be considered at the next Collections Committee meeting, or in a special session of the Committee, depending on time constraints. The decision process will be expedited to ensure that the exhibit or program planning process proceeds without undue delay. The Research Curator will make a good faith effort either to provide a suitable replacement from the VMNH collections, from another source or allow limited use of the specimen for the original purpose, in a way that minimizes disruption of the planned activity while insuring the integrity of the specimen. Appeals to accession decisions are presented to the Collections Committee by the Manager of the responsible department. If disagreement continues, appeals can be presented to the VMNH Executive Director.

Specimens reviewed in this process but not accessioned into research departments will be provided with a moderate or low level of supervision as determined by the Manager of the responsible department (described in section II, C). These specimens, initially not deemed rare, may not be accessioned in the future without consulting the Manager of the responsible department. As new information regarding the rarity of a particular specimen comes to the attention of a Research Curator, they must notify the Manager of the responsible department. At that time, the curator will provide a written justification for reconsidering the accessioning of the specimen as a research specimen. This justification will be presented to the Manager of the responsible department, the Collections Committee, and the Executive Director. A change in status from non-accessioned specimen to accessioned research specimen will be considered at the next Collections Committee meeting. If the specimen is accessioned, the curator is obligated to make a good faith effort to provide funds to purchase a replacement, to provide a suitable replacement from the VMNH collections or another source, or to allow continued use of the specimen in a way that minimizes disruption of any planned exhibit or program while ensuring the integrity of the specimen.

When such specimens are no longer needed for exhibit or programming purposes, it is at the discretion of the Manager of the responsible department to either retain the specimens for potential future use or offer the specimens to Research and Collections for accession consideration or for use in educational presentations managed by that department.

J. Accessioning - The formal process used to accept and record a specimen as a permanent collections specimen. It is a process by which only appropriate material is added to the Museum's permanent collections. Accessioning includes two basic activities: an approval process and a registration process.

The registration process occurs only after the review process is complete. The policies governing these activities are discussed in the previous sections.

K. Commencement of Ownership - The time at which the VMNH is considered to take possession of and legally own a specimen varies with the method of acquisition. The following definitions set forth the time and conditions for commencement of ownership:

- 1. Gifts/Bequests:** The VMNH is considered to own a specimen when (1) an offer of donation is made, (2) the Museum maintains physical custody, and (3) appropriate documentation has been completed (e.g., Deed of Gift, as shown in Appendix VIII). Ownership begins only after these three conditions have been met.
- 2. Purchases:** Ownership begins when the VMNH has paid for the specimen, subject to any conditions of delivery.
- 3. Exchange/Transfer:** Ownership begins when the specimens physically enter the Museum and all exchange/transfer forms have been completed by both the transferor and the VMNH.
- 4. Field Collection:** Everything collected on Museum-sponsored trips by employees, trustees, non-paid associates, and volunteers automatically and immediately belongs to the Museum as soon as it is collected unless limited by permit or legislative restrictions. Following the conclusion of the trip, the appropriate Museum department will make recommendations for accessioning part or all of the materials collected, according to the acquisitions approval process outlined in this policy.

The Museum has the right of first refusal for all materials collected by participants of Museum classes or programs. For jointly funded projects, a written agreement should be developed at the beginning of the project, before field work begins, describing the disposition of specimens collected as part of the project. The agreement should be approved by the VMNH Executive Director and the appropriate representatives of the other funding agencies.

Employees who hold joint appointments, whether temporary or long-term, with other agencies should recognize the potential conflict of interest relative to collecting activities. Every effort should be made by employees to obtain representative material for the Museum from any project in which they participate. For long-term joint appointments, a written agreement should be developed clarifying the disposition of specimens collected during the course of the appointment. The agreement shall be approved by the VMNH Executive Director and the appropriate representative of the other agency.

V. Collection Management

A. General Considerations - The ultimate goal of collection management is to maximize the values of and extend the lives of specimens in the VMNH collections in order that they may be used to increase knowledge of our natural and cultural heritage. To accomplish this goal it is necessary to:

1. manage the specimens individually as well as collectively relative to Museum resources (e.g., space, personnel, equipment, etc.);
2. maintain documentation procedures that fulfill legal requirements, preserve each specimen's collection data, and that build a record of the specimen's use and history;
3. ensure that sound conservation principles are followed to slow biological, chemical, and mechanical deterioration; and
4. ensure the safety of the collections against hazards.

The VMNH will make every effort to adhere to professional standards and ethics for collections management. The Board of Trustees is ultimately responsible for the protection and appropriate use of the collections. Although it is the primary function of Research and Collections staff to coordinate the collections care program for the Museum, the entire Museum staff shares the responsibility for the care and management of the specimens. Not only is the safety of the specimens to be considered, but human health and safety issues resulting from contact with or interaction with specimens must be addressed as well.

The VMNH maintains a unique relationship with Indigenous communities regarding its collections. The Museum is committed to upholding its legal and professional responsibilities to state and federally recognized Tribal entities with respect to collections access, collections care, and any issues related to collections provenance. This commitment includes all consultation responsibilities under state and federal law, and acknowledges the legal rights to pursue repatriation of artifacts or specimens within the Museum's collections.

B. Procedures and Guidelines - The Collections Manager, the Registrar, and the appropriate Research Curator or Manager of DEPP are responsible for establishing written procedures or guidelines for the management, documentation, and conservation of the museum's collections, subject to the general guidelines of this policy. Procedural documents are reviewed by the Collections Committee that may suggest revisions.

This policy and all procedures and guidelines are provided as a manual for reference. Changes must be submitted to the Collections Committee in writing for inclusion in the manual.

C. Management - The Collections Manager is responsible for coordinating the development of short- and long-range plans to improve the quality of management, documentation, and care of the museum's collections. To facilitate this process, the Collections Manager, in coordination with Research Curators/Manager of DEPP, and in consultation with conservators and collections assistants, will coordinate the departmental collection philosophies/priorities statements, department acquisition plans, collections assessment, and Museum-wide conservation assessment at appropriate time intervals. A long-range collections plan will be prepared every five to seven years, with annual revisions as needed, using these and other reports.

A committee comprised of the Collections Manager, representatives of departments holding collections, and representatives of the Building and Grounds Department will establish and revise procedures to mitigate damage to collections and staff in the event of natural disasters, fire, building

damage, and other such situations. These procedures are to include guidelines for evacuation, recommendations for staff training to deal with emergencies, and procedures for documenting damage.

D. Documentation - Accessioning, cataloging and inventorying procedures, and data standards are established by the Collections Manager, Registrar, and Research Curators. Specimens that have become the property of the VMNH must be permanently identified in some manner that will not impair the research or exhibition value of the specimen.

All procedures used on a specimen and transactions involving specimens should be documented as part of the permanent history of the specimen. The Research Curators/Manager of DEPP, in coordination with the Collections Manager and Registrar, are responsible for establishing and maintaining documentation protocol for specimen preparation, storage, use, and treatment. The resulting documentation should be made available to anyone who works with the specimens and is provided if the specimen is transferred to a different collection or institution.

Archival copies of all registration and transaction records must be maintained in the Registrar's files. These include records of title, transfer, gift or bequest, receipts, permits, catalogs, inventories, records of conservation treatment, research use or destructive testing of specimens, loans, and deaccession documentation. It is the responsibility of the Collections Manager, Registrar and Research Curators/Manager of DEPP to insure that these records are maintained.

The VMNH is responsible for developing and following procedures for archiving in conjunction with and subject to the policies of the Virginia State Library and Archives. All archived records are accessible under the provisions of the Virginia Freedom of Information Act unless reason for restricted access can be shown. Access may be restricted in cases where disclosure of information might jeopardize the continued existence or integrity of natural or cultural resources. Excerpts from the Virginia Freedom of Information Act are included in Appendix IX.

Documentation in the form of field notes, maps, negatives, photographs, slides, films, videos, sound recordings, software or other computer media, published works, illustrations or printouts must not be stored in specimen cases with specimens. Storing documentation in specimen cases can introduce contaminating materials, potentially compromising the safety of the specimens. Full archival copies of all such documentation must be maintained by the Research Curator/Manager of DEPP or Registrar in an appropriate storage cabinet (i.e., fire-proof safe, chemical safe, etc.).

Field notes and associated documentation are the property of the VMNH if they are produced by VMNH staff members, researchers, or volunteers receiving support from the VMNH. A full set of such documentation must be provided to the Registrar for archiving purposes. It is preferred that original sets are archived and that duplicates be used for research activities.

E. Conservation of Specimens - The Collections Manager and/or Registrar, in consultation with conservators and Research Curators, will coordinate the development of guidelines for preservation and conservation procedures and standards. The VMNH will make every effort to implement and document preventive conservation techniques to help slow specimen deterioration. Conservation treatment will be carried out as needed in consultation with professional conservators.

F. Incoming Loans – The VMNH requests loans for the purpose of research, education, and exhibition. A request to borrow specimens is made in writing by a Research Curator/Manager of DEPP. Loans to students or non-paid associates are made through the appropriate Research Curator/Manager of DEPP. Documentation pertaining to loans must be made available in advance of the receipt or outgoing shipment of the specimens to the Registrar. A copy of the Incoming Loan Agreement form is included in Appendix X.

All conditions set on an incoming loan must be reviewed by the Research Curator/Manager of DEPP and the Registrar. In case of disagreement, the decision to accept a loan can be appealed to the VMNH Executive Director. All conditions set on the use, storage or exhibition of specimens by the lending institution must be achievable. Once accepted, these restrictions are binding, and the VMNH will make every effort to adhere to these restrictions. No portion of incoming loans may be transferred to a location or person that has not been previously approved in writing by the lending institution.

The VMNH may not borrow specimens that are known to have been collected or imported in violation of state, federal, foreign or international restrictions or that may otherwise place the Museum in a compromising legal or ethical position. If such information becomes known after the loan has been received, the problem should be referred to the Executive Director for resolution. In connection with any such loan, the VMNH shall not incur any unlawful debt on behalf of the Commonwealth.

Specimens that are damaged or lost while in the care of the VMNH must be immediately documented in writing and the lending institution notified. Questions about insurance or other costs relating to damage or losses must be referred to the Registrar. Information regarding the damage or loss of specimens while they are in the care of the VMNH will be forwarded to the VMNH Executive Director.

Shipping and insurance arrangements on incoming loans must be agreed to by both parties in writing in advance.

VI. Use of Collections

A. General - The VMNH provides access to its collections and associated data primarily by responding to written or verbal research inquiries or general questions; by lending specimens to institutions for research, educational or exhibit purposes; and by physical access to collections areas and specimens. In addition, the VMNH provides access to selected information about collections through the internet. Although the purpose for collecting most natural history specimens is to use the specimens, it is necessary to balance the goal of use with that of specimen preservation. As a result, unconditional access to and use of specimens is not feasible. The policies in this section set forth guidelines for access to and use of specimens in the VMNH collections.

B. Access - Maintenance and security of collections and data requires that access be restricted to authorized VMNH staff, volunteers, and visitors only. Authorized staff and volunteers, including non-paid associates, are those who need access to collections areas to carry out their duties and responsibilities. Visitors wishing to use the collections must request an appointment in advance of the time of visit and must be approved by the appropriate Research Curator/Manager of DEPP. Access to a collection will be decided using the following criteria:

1. The individual must have a legitimate reason for using the collection (*e.g.*, artistic reference, scholarly research, spiritual or ceremonial access by state or federally recognized Tribal entities, etc.);
2. The individual should demonstrate knowledge of or be instructed in appropriate techniques for handling specimens;
3. The individual must demonstrate willingness to comply with the general security precautions for the collections and the museum's collections procedures; and
4. The individual must provide the necessary equipment to complete his/her project and expect to work during the museum's regular operating hours.

Exceptions to these criteria must be resolved in advance of the visit and be approved by the appropriate Research Curator/Manager of DEPP in consultation with the Collections Manager. Individuals denied access to the collections may request a review of the decision by the Collections Committee. Denial of access by the Collections Committee can be appealed to the VMNH Executive Director. Visitors requesting use of VMNH equipment or preparation/laboratory space must receive approval from the appropriate Research Curator(s) and should be supervised during their visit.

Visitors who have previously abused their status or caused damage to specimens may be denied access to all collections.

Collections storage units and areas, offices, and records will be locked or protected from unauthorized access when no staff members are present.

Collections archives (maintained by the Registrar), current records, and collections policies and procedures are open to public access under the provisions of the Virginia Freedom of Information Act (Va. Code Ann. Section 2.2-3700 et. seq.), with the following restriction: as is permitted under Va. Code Ann. Section 2.2-3705.7(10), access is restricted for records containing information on the site-specific location of rare, threatened, endangered or otherwise imperiled plant and animal species, natural communities, caves, and significant historic and archaeological sites. The disclosure of such information would jeopardize the continued existence or integrity of the resource. This restriction shall not apply to requests from the owner of the land upon which the resource is located.

C. External and Internal Loans - Loans are temporary physical transfers of specimens without any transfer of ownership. Requests to borrow VMNH specimens should be made in writing to the appropriate Research Curator/Manager of DEPP including the following information: purpose of the loan, description of the material requested in as much detail as possible, quantity of specimens needed, and where and under whose responsibility the specimens will be housed while on loan. External loans are made only to institutions, not individuals; however, a permanently employed representative of the institution will be named as the responsible party for the loan. Internal loans are made only to a department, not an individual; however, the Research Curator/Department Manager requesting the loan will be named as the responsible party for that loan. Copies of Outgoing and Internal Loan Agreement forms are included in Appendices XI and XII, respectively.

Requests will be reviewed by staff of the appropriate department relative to the quantity of available material and restrictions placed on certain specimens. The Research Curator/Manager of DEPP has the authority to approve loans of specimens (requests for destructive testing and reproduction are handled differently; see sections D and E, respectively). In addition, the Research Curator/Manager of DEPP may designate other staff to approve loans as appropriate. Biological specimens representing extinct or endangered species, type specimens, voucher collections, specimens described or figured in publications, fragile specimens or single representatives of a taxon are generally not available for loans. Exceptions to this must be approved by the appropriate Research Curator.

All specimens loaned (externally and internally) from the VMNH are subject to the following guidelines. All exceptions must be requested and granted in writing. Failure to follow the Museum's guidelines may jeopardize future borrowing privileges. In the event that a problem arises with a loan, copies of all correspondence, preparatory materials, condition reports, and documentation concerning specimens will be forwarded to the Registrar and to the Research Curator/Manager of DEPP. The Research Curator/Manager of DEPP will contact appropriate parties. In the event that the Research Curator/Manager of DEPP does not follow-up, the Registrar may appeal to the Executive Director to act independently.

1. All documentation must go through the office of the Registrar prior to loan initiation.
2. The length for each loan will be negotiated at the time of the loan, generally not to exceed 12 months. Requests for extensions should be made in writing to the Registrar, with copies to the appropriate Research Curator/Manager of DEPP. The decision to approve a loan extension will be made by the Research Curator/Manager of DEPP. The Registrar will monitor the length and return of loaned material.
3. Specimens may not be forwarded to another institution, department or individual without written permission from the VMNH.
4. Specimens should be stored according to professional standards in cases and/or facilities that are free from hazards (e.g., insects, rodents, fire, vandalism, theft, water damage, etc.). The VMNH will recommend storage and handling guidelines for unusual or sensitive materials.
5. Specimens should not be repaired, sampled, dissected, remounted or in any way altered without written permission. Special permission is required for destructive testing or invasive sampling of any kind.
6. All original documentation accompanying the specimens must never be discarded or covered over (examples include original locality labels, previous identification labels, etc.).
7. Type specimens are loaned only from certain divisions and are subject to restrictions. All types must be returned within 90 days of receipt by registered priority mail, unless otherwise negotiated.
8. All material sent out on loan must be returned by the specified due date even if incorrectly identified. Taxonomic changes must be noted when the material is returned.

9. The specimens are the responsibility of the borrower until received by the VMNH. Therefore, they should be packed and shipped according to national and international laws governing transportation and in a manner similar to or better than as received. Wooden shipping containers must be returned to the VMNH.
10. The borrower must agree in advance to cover the cost of return shipping and insurance and to provide condition reports upon receipt and upon return. Specimens must be insured for the value indicated on the original shipping invoice.
11. The VMNH must receive credit in any publications based on the use of specimens from its collections. The abbreviation "VMNH" should be used when identifying the Museum's specimens.
12. Authors shall send electronic or physical copies of all publications based in whole or in part upon material loaned from the Museum. One copy will reside in the Registrar's files, the other in the department from which the specimens were borrowed.
13. The VMNH shall ensure that the borrower agrees in writing to be liable for any damage to specimens during the loan period.
14. Tissues requested from the collection should be subsampled when possible, and whole tissue requests should be approved by the Curator on a case-by-case basis.

D. Destructive or Consumptive Sampling - To fully realize the research potential of the collections, it may be necessary to remove samples or alter permanently the appearance or substance of some specimens. It must be recognized, however, that such sampling and alterations potentially decrease the future scientific value of the individual specimen. To balance the legitimate needs of the scientific and scholarly community with the long-term preservation of the collections for future needs, each request for sampling will be considered according to the following parameters.

1. A written request to sample a specimen or to perform any type of destructive analysis should be sent to the appropriate curator and include the following information:
 - a. a description of the project stating the purpose of the research;
 - b. a description of the techniques to be used and an indication of why these are appropriate to the question being asked;
 - c. a description of the specimen(s) needed;
 - d. a justification for the use of VMNH specimens; and
 - e. the name, address and telephone number of the individual(s) responsible for the project and for performing the techniques. If the individual(s) responsible for the project and for

performing the techniques is a student, then the name, address, telephone number, and email address of the individual(s)'s advisor should be included.

2. Requests shall be evaluated and recommended by the appropriate Research Curator/Manager of DEPP and the Executive Director. If either of these individuals so requests, additional evaluations of the researcher's request may be sought. If the specimens requested by a researcher are to be totally consumed, then the researcher's request shall be treated as a request to deaccession specimens (section VII of these policies). All decisions must be approved by the Collections Committee and will be documented in writing and the researcher notified accordingly.

If a request is refused, a researcher may submit an appeal to the Collections Committee. The request shall be reviewed by an outside review panel consisting of at least three professionals in appropriate fields who are not directly affiliated with the Museum. At least one of these three must be a collections care specialist or conservator. The researcher, Research Curator/Manager of DEPP, and the Executive Director will each choose one individual to serve on the review panel. The Collections Committee will determine suitable action on the basis of the results of the panel's recommendation.

3. Criteria and considerations for approval include:

- a. The research project has merit;
- b. The researcher(s) demonstrate competence with proposed methods and have sufficient institutional resources to carry out stated research;
- c. The technique to be applied should yield the intended results and are the least intrusive analytical means of obtaining those results;
- d. The amount of sample and number of specimens requested is necessary and sufficient to obtain accurate results;
- e. The data required are not available from other sources;
- f. The potential for compromising the future utility of specimens for other investigations is minimal; and
- g. The researcher(s) indicate a willingness to abide by the VMNH operational guidelines for sampling and/or destructive analysis.

4. General operational guidelines for sampling and destructive analysis:

- a. Holotype specimens will not be tested in any way that lessens the specimen's value as a holotype. Requests to test holotype specimens automatically require an evaluation of an outside review panel.
- b. Usable samples and unused portions of specimens will be returned to the VMNH so they can be retained for future use.

c. All resulting analytical data, including raw data in the form of graphs, computer printouts, etc., pertaining to the listed specimens will be provided to the Research Curator/Manager of DEPP and the Registrar to become part of the specimen's permanent record. Such data, except published reports, shall remain confidential for a period of two years following the close of the original loan due date. During this period, the name of the researcher may be given to others proposing to use VMNH specimens for similar research projects. In this case, the second researcher may be requested to obtain analytical results from the first researcher before the additional sampling requests are approved.

d. Methods and the extent of sampling are thoroughly documented for each specimen according to departmental guidelines.

e. A Destructive Testing Analysis form (Appendix XIII) shall be signed by the researcher(s) before specimens are sent.

f. All costs of the analysis, including packing and shipping from and back to the Museum, are the responsibility of the researcher, unless otherwise indicated in writing.

g. Two copies of any publication including information resulting from the analysis on the specimens will be provided to the Registrar.

h. Supplemental guidelines shall be established by the Research Curator/Manager of DEPP and the Collections Manager in accordance with these policies to detail requirements that are specific to individual disciplines.

5. Failure to follow the VMNH guidelines may jeopardize future borrowing privileges.

E. Reproduction - Reproduction of museum specimens shall not compromise the Museum's image nor its ethical responsibility to preserve scientific specimens and hold these specimens in trust for the public. Reproductions include casts, models, illustrations, 3D scanning, imaging, and manufactured facsimiles. The Museum retains the right to commercialization of all VMNH specimens and reproductions and may refuse reproductions by others on this basis. Reproductions are approved for research, manufacture, and sale under the following restrictions:

1. Research Curator/Manager of DEPP may restrict the reproduction of any specimen in their collection on the grounds of irreplaceability, fragility, controversial nature, or ongoing research that could be compromised. Reasons for restrictions will be documented. Restricted material may include specimens that fall under the provisions of the American Indian Religious Freedom Act or the Endangered Species Act.

2. Copyrights are retained by the VMNH and a notice of copyright appears on or with all reproductions.

3. The VMNH store is the first avenue of sale and should receive a given share of all receipts, as specified under contractual agreement (such as a Memorandum of Understanding), which will be drafted as needed.

4. The right to grant a license to reproduce VMNH specimens for artistic reference or commercial purposes is retained by the VMNH. Licensees may not use VMNH personnel time, buildings, or resources to make reproductions, unless otherwise agreed upon in writing, and must abide by all conditions set on specimen care and protection. A license to reproduce VMNH specimens is revocable.

5. If negatives or molds are produced, the VMNH may ask that all negatives, molds, and first-generation casts be given to the VMNH or destroyed once the original conditions of a license are fulfilled.

6. The VMNH may ask that all digital files be given to the VMNH or destroyed once the original conditions of a license are fulfilled.

7. Copies of all documentation (paper and electronic versions) must be provided to the Registrar to become part of the specimen's permanent record.

8. Permission to reproduce VMNH specimens or other collections materials, including photographs and slides owned by the VMNH, must be obtained in writing to insure that policy restrictions are considered for each situation and to prevent the misuse of VMNH specimens, staff time, facilities, and equipment.

A. Requests by VMNH staff to reproduce specimens for the purpose of research, educational programs, or exhibits must state the procedures and materials that will be used. Requests must have the approval of the relevant Research Curator/Manager of DEPP. Any reproduction activity of a specimen must be documented in the specimen's permanent record.

B. Requests by non-VMNH staff to reproduce specimens for the purpose of research, educational programs, or exhibits, should include the following information for consideration and evaluation by the appropriate Research Curator/Manager of DEPP:

a. the purpose of the intended use;

b. the reproduction procedure and materials that will be used;

c. the name(s) of all individual(s) who will produce the reproduction;

d. where the work will be done; and

e. if VMNH staff and materials are to be used, how the materials and personnel time will be accounted and paid for.

Requests must have the signed approval of the relevant Research Curator/Manager of DEPP and the Collections Manager, using the Reproduction Agreement form (Appendix XIV).

C. Requests to reproduce specimens for artistic reference or commercial purposes must include:

- a. the purpose of the intended use;
- b. the reproduction procedure and materials that will be used;
- c. the name(s) of all individual(s) who will produce the reproduction;
- d. where the work will be done; and
- e. how proceeds from a sale are to be distributed.

Requests must have the signed approval of the Research Curator/Manager of DEPP, the VMNH Deputy Director and/or the VMNH Executive Director, and they are subject to restrictions stated in these policies. A Contractual Agreement, such as a Memorandum of Understanding, will be drafted with the conditions and requirements for this type of use and must be signed by both parties involved. Copies of all documents should become part of the specimen(s) permanent record.

VII. Deaccessions

A. General Considerations - Deaccessioning is the formal process used to permanently remove an accessioned specimen from the collection in order to improve the overall quality of the VMNH collections. This definition presupposes that the specimen in question was once accessioned, that it was formally accepted and recorded as specimen worthy of collection status.

The VMNH may deaccession any specimen for which it has documentation of unencumbered title or ownership, subject to the guidelines of this policy and regulations of the Commonwealth of Virginia. To deaccession specimens for which the Museum has an encumbered title, it is necessary to research the conditions of the title, to make every effort to contact the original donor/collector to clarify the intent of the conditions and to seek legal counsel to assist with the process.

Specimens are deaccessioned due to one or more of the following reasons:

1. The specimen does not fall within the scope of the VMNH collections as described in these policies.
2. The specimen has deteriorated to such an extent that it cannot be preserved or used.
3. The specimen is redundant and no alternative use can be determined.
4. The specimen poses a health or safety hazard.
5. The museum cannot provide adequate care for the specimen.

6. The specimen is occupying space and using valuable resources that could better be used to improve or strengthen the collections in order to further the Museum goals.

B. Disposal of Specimens - State purchased and inventoried surplus property that has been deaccessioned shall be disposed of in accordance with the Commonwealth of Virginia Department of General Services surplus property procedures for disposition. Property and specimens gifted to the VMNH Foundation, an independent non-profit that does work on behalf of the VMNH, shall not be subject to state surplus property procedures and shall be disposed of in the prioritized methods noted below. Following deaccessioning, specimens will first be offered to the VMNH DEPP to be included in their non-accessioned inventory of specimens. If the DEPP does not want the specimens, they will then be transferred preferentially to other non-profit research and/or educationally-oriented institutions with the ability to provide care appropriate to the original use of the specimen. By preference, specimens will remain in Virginia institutions; however, it is an overriding concern that the specimens be placed in a facility that will provide appropriate care and ensure access for research and educational uses. Specimens that fall under the provisions of state, federal or international legislative restrictions or recommendations established by professional disciplines may necessitate special considerations for deaccessioning and transfer. The following are prioritized methods of disposal:

1. Exchange;
2. Donation to a research/educational institution or organization;
3. Transfer to other state agencies;
4. Sale;
5. Destruction, if the specimen has become badly infested or has deteriorated beyond usefulness.

Specimens that have deteriorated beyond usefulness or that pose an insurmountable health or safety hazard due to inherent vice (e.g., asbestos, disease, harmful breakdown products) or treatment history, may be destroyed upon written approval of the Collections Committee and the VMNH Executive Director.

Deaccessioned specimens may not be transferred by any means to employees, trustees, non-paid research associates, volunteers or members of immediate families or their agents.

C. Sales - Sales of deaccessioned specimens are not recommended for most natural history specimens. Sales should be considered only as a last option before destruction of samples. By preference, specimens should first be exchanged, transferred or donated to another repository as described above.

In cases where gifts, exchanges, or transfers do not apply, specimens may be sold, provided that discipline-specific ethics and practices are observed and conflict of interest, real or perceived, is avoided. Sales must be conducted in such a way that they do not contribute to the existence of illegitimate markets, the destruction of resources or sites, illegal trade, or unethical behavior. Specimens sold at public auction may not be purchased by anyone directly associated with the Museum, including trustees, employees,

research associates, volunteers, or members of their immediate families or their agents. Museum representatives may not directly and/or personally gain or benefit from specimen dispersals.

State purchased and inventoried surplus property that has been deaccessioned shall be disposed of in accordance with the Commonwealth of Virginia Department of General Services surplus property procedures for disposition. Property and specimens gifted to the VMNH Foundation, an independent non-profit that does work on behalf of the VMNH, may be sold through public sales or public auctions only. Specimens deaccessioned from museum collections may not be sold through the museum store. Funds received through sales of deaccessioned specimens shall be used only for the acquisition of collections or for materials directly related to the maintenance and preservation of the VMNH collections, subject to the approval of the Collections Committee and the Executive Director.

D. Approval Process - Deaccessioning includes two basic activities: an approval process and a registration process. Policies concerning those processes are as follows:

1. Recommendations for deaccessioning are brought to the Collections Committee and shall be reviewed by the Committee in consultation with the appropriate Research Curator/Manager of DEPP. The Research Curator/Manager of DEPP involved must recuse themselves as a Committee member. A thorough investigation of the records shall be made to be certain that limitations to outright ownership by the VMNH of a specimen, such as terms of any gift, bequest or exchange, would not be violated by the deaccessioning. Stipulations set forth under collecting or storage permits granted by state, federal or international entities must also be considered. Specimens that are on loan to the VMNH which cannot be satisfactorily returned to their lenders may come under the provisions of abandoned property laws (Appendix XV). The VMNH shall consult with legal counsel.
2. Written recommendations describing the specimen(s) in question, the purpose for the deaccession, the estimated value, and the method of disposal are submitted to the Chair of the Collections Committee using a Deaccession form (Appendix XVI). This Committee reviews and may accept by a majority vote the recommendations or provide alternative suggestions.
3. All recommendations concerning deaccessions that are made by the Collections Committee will be forwarded to the Executive Director for approval. If a Research Curator/Manager of DEPP and the Collections Committee offer opposing recommendations concerning a potential deaccession, a thorough summary of both recommendations will be presented to the VMNH Deputy Director. Following recommendation by the Collections Committee, or the VMNH Deputy Director when necessary, all deaccession requests will be forwarded to the VMNH Executive Director, who will then make a recommendation decision. All deaccession requests will then be forwarded to the Research and Collections Committee of the Board of Trustees for approval.

The Research and Collections Committee of the Board of Trustees has the authority to approve on behalf of the Board of Trustees all deaccessions. Outside independent appraisals must be obtained prior to the disposal of specimens whenever requested by the VMNH Executive Director or Chair of the Research and Collections Committee of the Board of Trustees and in all cases when the value of the specimen(s) in question exceeds \$25,000.

4. Reasons for reversing decisions recommended by the Collections Committee and/or the VMNH Executive Director by the Research and Collections Committee of the Board of Trustees will be documented and reviewed by the entire Board. In such cases, a review panel comprised of 3 members chosen from the Board would be formed to study the potential deaccession in question and report to the Board. One member would be picked by the Collections Committee, one member appointed by the Research and Collections Committee of the Board of Trustees, and a third member, who will serve as Chairperson, selected by the other two panel members. Final authority for accepting or rejecting potential deaccessions remains with the Board of Trustees.

E. Exceptions - Deaccessioning is generally not permitted for the following specimens: type specimens (as defined and designated by each department to represent disciplinary standards), non-fossil specimens representing extinct species, specimens representing known endangered species, voucher collections, figured or illustrated specimens or other specimens that are described in professional or scientific publications. Departments may specify other unusually valuable specimens that may not be deaccessioned; such a designation should be preferentially made when the specimen is accessioned. Recommended exceptions to the above shall be made according to the approval policy for deaccessions outlined above. These protected specimens represent the core value of the museum and should be protected to the extent possible given current Collections Management standards and practices. Full documentation shall be retained for these specimens. Should it become necessary to deaccession any specimens that fall into these exceptions, priorities for disposal of specimens will follow VII, B items 1–5 above.

F. Unclaimed Specimens - On occasion, specimens brought or loaned to the museum are not reclaimed by the original owner. In such cases, the VMNH shall make reasonable efforts to identify the owner(s) and to return the specimen(s) to the rightful owner(s) as allowed by law.

1. Notice of Termination of Loan - After expiration of the specified term of a documented loan, the Registrar shall mail a notice of termination of a loan to the lender at the most recent address of the lender as shown on the museum's records pertaining to the property on loan. If the museum has no address in its records, or the museum does not receive written proof of receipt of the mailed notice within thirty days of the date the notice was mailed, the museum shall cause to be published notice at least once a week for three consecutive weeks in a newspaper of general circulation in the county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located.

If the lender cannot be reached and does not reclaim the loaned property, the Museum shall post a notice to terminate the loan on the Museum's official Internet Website. This notice shall include:

- a. The name and address, if known, of the lender;
- b. The date of the loan;
- c. The name, address, and telephone number of the appropriate office or official to be contacted at the museum for information regarding the loan; and

d. Any other information deemed necessary by the museum.

If after one year, no claim has been made for the loaned property, said property shall be deemed to have been donated to the Museum.

2. Acquiring Title to Undocumented Property - The VMNH shall have the authority to acquire legal title to undocumented property if the museum can verify through written records that it has held such property for five years or longer, during which period no valid claim to the property has been asserted and no person has contacted the museum regarding the property, by complying with the following procedure:

a. The museum shall cause to be published a notice once a week for two consecutive weeks in a newspaper of general circulation in the county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located. The notice shall include:

1. A brief and general description of the property;
2. The date or approximate date of the loan or acquisition of the property by the museum, if known;
3. Notice of the museum's intent to claim title to the property if no valid claims are made within sixty-five days following the date of the first publication of the notice under this subdivision;
4. The name, address and telephone number of the representative of the museum to contact for more information or to make a claim; and
5. If known, the name and last known address of the lender.

b. If no valid claims have been made by the end of the sixty-five day period following the date of the first publication of the notice under subdivision 1.a.3 of this subsection, the museum shall cause to be published a second notice once a week for two consecutive weeks in a newspaper of general circulation in the county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located. The second notice shall include:

1. A brief and general description of the property;
2. The date or approximate date of the loan or acquisition of the property by the museum, if known;
3. Notice that the museum claims title to the property as of the date of the end of the sixty-five day period following the date of the first publication of the notice under subdivision 1 of this subsection; and

4. If known, the name and last known address of the lender.

Upon compliance with the requirements set forth in subsection 2.a, clear and unrestricted title is transferred, as of the date specified in subdivision 2.a.3 of this section, to the museum and not to the Commonwealth.

G. Documentation - All reviews and deaccessioning decisions will be documented according to professional standards. Research Curators/Manager of DEPP and the Registrar are responsible for fully documenting deaccessions and updating collections records to reflect such activities.

H. Dissolution of the VMNH - The Commonwealth of Virginia has mandated through legislation that VMNH was established as a "state museum of natural history ... where specimens of natural history, especially those of Virginia origin, can be properly housed, cared for, catalogued and studied" and that it serves as "a permanent repository of our natural heritage" (Code of Virginia C.20, Title 10.1). The VMNH employees and Board of Trustees strongly endorse this purpose as a critical component of the Museum's mission. In the event that the VMNH should cease to exist, the Commonwealth shall have the authority to transfer the specimens to another institution that agrees to maintain and preserve the collection consistent with the purposes stated in the VMNH Collections Policy.

VIII. Revisions to the VMNH Collections Policies

Revisions to these policies may be submitted in writing at any time to the Collections Committee for discussion. Based on a majority vote, the Committee shall recommend acceptance or refusal of the revision. The submitted revision and the Committee's recommendation shall be forwarded to the VMNH Executive Director and the Research and Collections Committee of the Board of Trustees for their consideration. Final approval of revisions rests with the Board of Trustees.

The VMNH Collections Policies shall be formally reviewed and updated at least once every five years. It is the responsibility of the Collections Manager to coordinate this review process.

APPENDIX 1.

DEFINITIONS

Acquisition – the act of acquiring museum objects/specimens through gift, bequest, purchase, transfer, field collection, etc. Not all acquisitions are accessioned. Acquisitions may be placed in hands-on/educational collections, permanent collections, or the library and archives collections.

Accession – the act of recording/processing an addition to the permanent collection by means of assigning a unique number that allows the museum to connect an object to its documentation.

Cataloging – the creation of a full record in complete descriptive detail of all information available about a specimen or group of specimens, cross-referenced to other records and files; includes the process of classifying and documenting specimens in detail.

Collections – primarily specimens, as well as other objects and documents, and all their associated data under the Museum's care.

Deaccessioning – the process of removing an accessioned specimen or group of specimens by a specified procedure from the museum's permanent collections; includes gifts, transfers, exchanges.

Inventorying – the creation of an itemized list of specimens or group of specimens that identifies each accession's physical location and movement (i.e., history of physical locations of specimens).

Plans – written statements outlining the specific goals of museum personnel regarding collections activities. These statements include timelines for carrying out goals, responsibilities of individuals involved in carrying out goals, and the resources needed to carry out goals. These statements are bound by a specific time period and are revised once that time period has ended.

Policies – written statements that establish standards and a framework for decisions regarding collections activities. These statements must be approved by the governing authority.

Procedures - detailed step-by-step instructions on how to implement policies. These instructions do not have to be approved by the governing authority.

Specimens – biological, geological, paleontological, or archeological objects, items, tissues, or materials; replicas, casts, models; items created and managed in digital form; and any parts thereof, that fall within the disciplinary scope of the Museum's collections.

APPENDIX II.

EXCERPTS FROM CODE OF VIRGINIA: Museum Creation and Purposes

§§ 10.1-2000. Museum created; essential governmental function.

There is hereby created an institution of the Commonwealth of Virginia to be known as "The Virginia Museum of Natural History," hereinafter referred to as the "Museum." The Museum is hereby declared to be a public body and instrumentality for the purpose of preserving and protecting Virginia's natural history. The exercise by the Museum of the powers conferred by this chapter shall be deemed an essential governmental function.

(1988, cc. 707, 891.)

§§ 10.1-2001. Purposes.

The purposes of the Virginia Museum of Natural History are:

1. To investigate, preserve and exhibit the various elements of natural history found in Virginia and other parts of the United States and the world;
2. To foster an understanding and appreciation of how man and the earth have evolved;
3. To encourage and promote research in the varied natural heritage of Virginia and other parts of the world;
4. To encourage individuals and scholars to study our natural history and to apply this understanding of the past to the challenge of the future;
5. To establish a state museum of natural history in Virginia where specimens of natural history, especially those of Virginia origin, can be properly housed, cared for, cataloged and studied and to ensure a permanent repository of our natural heritage; and
6. To coordinate an efficient network in Virginia where researchers and the public can readily use the natural history material of the Museum, its branches, Virginia's institutions of higher education and other museums. These purposes are hereby declared to be a matter of legislative determination.

(1988, cc. 707, 891.)

**Virginia Museum of Natural History (VMNH) Conflict of Interest Policy
21 June 1990 – updated 19 September 2005 – 2nd revision 6 July 2012**

Application: This policy applies to all museum positions whether covered or non-covered under the Virginia Personnel Act, whether full-time or part-time, or paid on a salaried or on an hourly basis.

In the Code of Virginia, Chapter 31, Sections 2.2-3100 through 2.2-3131, the “State and Local Government Conflict of Interests Act” (the Act) is detailed. Copies of the Act are available online at <https://vacode.org>. Employees must be aware of the parameters of the Act and how it affects their employment activities. The salient points in relation to employment of family members and outside employment are summarized below.

It is incumbent upon the individual employee to notify the museum’s administration of any potential areas of conflict of interest and to provide adequate assurances that no conflict of interest exists in a situation. The Conflict of Interests Act states that any employee who knowingly violates the Act can be convicted of a misdemeanor, contracts and sales can be voided, and any monies made can be forfeited back to the State.

- I. **Employment of Spouses and Family Members:** The VMNH cannot allow the direct or indirect supervision by the employee of any member of their immediate family. Immediate family is a spouse or any other person residing in the same household who is a dependent of the employee. Dependent is defined as son, daughter, father, mother, brother, or sister, or other person whether or not related by blood or marriage if such person receives from the employee, or provides to the employee, more than one half of his/her financial support.

The employee cannot “exercise any control over the employment or employment activities of the member of his/her immediate family [spouse or dependent as defined above] and the employee [cannot be] in a position to influence those activities.”

An employee can have a personal interest in a contract with an immediate family member or dependent as long as they do not exert any control over the family member’s/dependent’s employment activities.

If there is any doubt that there is a conflict in this area, the employee may request an advisory opinion from the Attorney General’s office (Section 2.2.-3121).

- II. **Outside Consulting or Employment:** An employee cannot “accept any money, loan, gift, favor, service, or business or professional opportunity that reasonably tends to influence him in the performance of his official duties...or accept any business or professional opportunity when the employee knows that there is a reasonable likelihood that the opportunity is being afforded the employee to influence him/her in the performance of the employee’s official duties.”

In addition, Department of Human Resource Management (DHRM) Policy 1.60 “Standards of Conduct” states that “employees must comply with the letter and spirit of ...the Conflict of Interests Act, and Commonwealth laws and regulations” and also that employees must “obtain approval from [their] supervisor prior to accepting outside employment.” Failure to follow these directives may result in disciplinary action or termination under museum or DHRM policy.

- A. Policy for Consulting/Working during Non-Museum Hours: Even if the employee is performing outside, non-museum work during non-working hours, such work may be prohibited. This would occur if that outside work is seen by the supervisor as having the potential to affect, or is actually affecting, the employee’s performance at the museum. The employee must notify his/her supervisor in writing in advance of any outside work or consulting in order to prevent a misunderstanding of the effect of such work on their museum work.
- B. Policy for Consulting/Outside Work During Museum Hours: If there is no conflict of interest on an outside employment or consulting situation during normal working hours, the VMNH’s policy is as follows: If an employee is to regularly engage in activities for pay that are related to his/her museum duties, written approval from the Executive Director must first be obtained.

If approved, the payment for such services will be paid to the VMNH and credited back to the employee’s department; or payment may be deposited to the VMNH Foundation. Any other expenses (e.g., mileage, telephone calls, photocopying) incurred by such regular activities will also be paid by the outside institution or person seeking the employee’s services. (A curator giving one or two lectures in a team-taught course or any staff person giving occasional guest lectures does not qualify as a regular activity.)

“No officer or employee shall...Accept any honoraria for any appearance, speech, or article in which the officer or employee provides expertise or opinions related to the performance of his official duties. The term “honoraria” shall not include any payment for, or reimbursement to, such person for his actual travel, lodging, or subsistence expenses incurred in connection with such appearance, speech or article, or in the alternative, a payment of money or anything of value not in excess of the per diem deduction allowable under § 162 of the Internal Revenue Code, as amended from time to time. The prohibition in this subdivision shall apply only to the Governor, Lieutenant Governor, Attorney General, Governor’s Secretaries, and heads of departments of state government...” [Code Section 2.2-3103(7)].

- III. **Other Potential Areas of Conflict:** The Act also states that an employee cannot “offer or accept any money or other thing of value for, or in consideration of, obtaining employment, appointment, or promotion for any person with any government or advisory agency” and cannot “offer or accept any money or other thing of value for, or in consideration of, the use of his public position to obtain a contract for any person or business with any governmental or advisory agency.”

In addition, a state employee cannot “solicit or accept money or other thing of value for services performed within the scope of his official duties, except the compensation, expenses or other remuneration paid by the agency of which he is an officer or employee.” This means that the employee cannot receive payment for outside work during the same hours for which the employee was also being paid by VMNH and for performing activities within the scope of their normal job duties. Again, this is an area where, if a question arises as to whether a conflict of interest exists, an advisory opinion may be requested from the Attorney General’s office.

- IV. **Responsibility for Notification:** The employee has the responsibility to notify his/her supervisor or the museum’s administration in advance of any outside activities, including volunteer service. An example of such service would include acting as a Board member for another organization. For all areas discussed above, the museum’s administration has the responsibility to ask questions in the event that a potential conflict appears to exist. The employee has the responsibility to assure the museum’s administration that no conflict exists.

CODES OF ETHICS AND PROFESSIONAL GUIDELINES

Code of Ethics for Museums; Adopted 1993 by the AAM Board of Directors and amended in 2000.

Please note that the Code of Ethics for Museums references the American Association of Museums (AAM), now called the American Alliance of Museums (AAM). <https://www.aam-us.org/programs/ethics-standards-and-professional-practices/code-of-ethics-for-museums/> (last accessed 4 July 2023)

AAM Code of Ethics and Professional Practices for Collections Professionals. Revised 24 February 2021. American Alliance of Museums. https://www.aam-us.org/wp-content/uploads/2021/03/Code_Ethics_Collections_Professionals_2021_02_24.pdf (last accessed 4 July 2023)

Direct Care of Collections: Ethics, Guidance and Recommendations. 2019. American Alliance of Museums. https://www.aam-us.org/wp-content/uploads/2018/01/Direct-Care-of-Collections_March-2019.pdf. (last accessed 4 July 2023)

AIC Code of Ethics and Guidelines for Practice. 1994. The American Institute for Conservation. <https://www.culturalheritage.org/about-conservation/code-of-ethics>. (last accessed 4 July 2023)

ICOM Code of Ethics for Natural History Museums. 2013. International Council of Museums. https://icom.museum/wp-content/uploads/2018/07/nathcode_ethics_en.pdf. (last accessed 4 July 2023)

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- 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/618fbcd9a68bdd5cbcc95f78/1636810457669/guidelines_herps_research_2004.pdf. (last accessed 4 July 2023)
- 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/618fbcd1f40e6c713dfa71ee/1636810449675/asf-guidelines-use-of-fishes-in-research-2013.pdf>. (last accessed 4 July 2023)
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Title 36: Parks, Forests, and Public Property, Part 79 – Curation of Federally-owned and Administered Archaeological Collections *in*: Electronic Code of Federal Regulations. (Administration Committee of the Federal Register).

<https://www.nps.gov/subjects/archeology/curation-of-federally-owned-and-administered-archaeological-collections-36-cfr-79.htm>. (last accessed 4 July 2023)

25 U.S.C. 32: Native American Graves Protection and Repatriation Act of 1990.

<https://www.nps.gov/subjects/archeology/napgra.htm> (last accessed 18 July 2023)



PERSONAL COLLECTION DISCLOSURE STATEMENT

This form constitutes a report of specimens or artifacts that fall within the scope of the Museum's collections as described in the VMNH Collections Policies. Please read the VMNH Policies for Live Animals and the VMNH Collections Policies documents.

This form is to be filed by:

Members of the VMNH Board of Trustees; VMNH Foundation Board of Directors; employees; non-paid associates; and, volunteers of the VMNH.

This form shall be completed upon affiliation with the VMNH and updated every five years (minimum). As a condition of assuming appointment, office, or employment, this form constitutes a report of specimens or artifacts at time of filing. Updates need only indicate additional collections/items received since the time of the last filing of this form. Updated forms shall have a filing deadline of January 15th of the year they are due to be updated. A form shall be submitted whether a person has personal holdings/updates or not.

The information required on this form must be provided on the basis of the best knowledge, information, and belief of the individual filing the form, as of the date of this report unless otherwise stated.

This Personal Collection Disclosure Statement Form is open for public inspection.

Original copies of the Personal Collection Disclosure Statement Form are held by the VMNH Registrar. Copies of forms containing a declaration of personal materials shall be submitted to the VMNH Executive Director, Chairman of the Research and Collections Committee of the Board of Trustees and the Chairman of the Board of Trustees.

DEFINITIONS

“Specimen” refers to biological, geological, paleontological, or archeological objects, items, or materials; replicas, casts, models; items created and managed in digital form; and any other parts, or parts thereof, that fall within the disciplinary scope of the museum's collections.

“Scope” refers to the disciplinary scope of the museum's collections as defined by the Board approved Collections Policies, including both primary fields and ancillary materials associated with these fields.

“Personal Collection” refers to one or more specimens owned by the individual completing the form, including specimens found, purchased, and received by gift or bequest.

“Catalog”, for the purposes of this form, is defined as a listing of specimens that includes sufficient detail to unequivocally identify individual specimens. The detail may be associated with specimens through a numbering system whereby each specimen has a unique number. Although a catalog of the personal collection is not required, a catalog is recommended as the best method for identifying the contents of a collection.



IN ASSOCIATION WITH THE SMITHSONIAN INSTITUTION

PERSONAL COLLECTION DISCLOSURE STATEMENT FORM

NAME (please print): _____
Office or Position Title: _____
Held or Sought: _____
Home Address: _____

Telephone: (home) _____
(office) _____

Please read and familiarize yourself with the *VMNH Policies for Live Animals* and the *VMNH Collections Policies* documents. Do you own one or more specimens that fall within the scope of collections owned by the VMNH as defined by the *VMNH Collections Policies*?

Scope - The disciplinary scope of research collections maintained by VMNH encompasses the fields of biology, geology, and archaeology.

YES (complete rest of form)

NO (sign and date form)

DESCRIPTION AND LIST OF SPECIMEN(S)

Discipline(s): _____

Number of specimens: _____

Does a catalog of specimens exist? YES NO PARTIAL

If YES, please provide a copy of the catalog with this form.

If NO, or if the catalog is only PARTIALLY COMPLETE, please describe the specimens in greater detail. Indicate quantity of specimens, general taxonomic and/or geographic coverage, extent of documentation, and method(s) of acquisition. Use continuation sheet if additional room is needed.

Quantity Specimen Description, including identifying characteristics How and When Acquired

Have the specimens been appraised? YES NO PARTIALLY

Were these specimens acquired to fulfill obligations to an employer? YES NO PARTIALLY

Employer's name: _____

Address: _____

Date(s) of employment: _____

I have read the *VMNH Policies for Live Animals* and the *VMNH Collections Policies* documents and shall adhere to these policies. I swear or affirm that the foregoing information is full, true, and correct to the best of my knowledge.

SIGNATURE: _____

DATE: _____



PERSONAL COLLECTION DISCLOSURE STATEMENT FORM - continuation sheet

Page: _____ of _____

NAME (please print): _____

DESCRIPTION/LIST OF SPECIMEN(S) continued:

<u>Quantity</u>	<u>Specimen Description, including identifying characteristics</u>	<u>How and When Acquired</u>
-----------------	--	------------------------------

 I have read the *VMNH Policies for Live Animals* and the *VMNH Collections Policies* documents and shall adhere to these policies. I swear or affirm that the foregoing information is full, true, and correct to the best of my knowledge.

SIGNATURE: _____

DATE: _____

APPENDIX VI. (front of form)



RECORD OF INCOMING MATERIAL FORM

Material Received From: _____ Date: _____
 Address: _____ Phone: _____

I understand that if I do not claim the object(s) listed on this form within TWO MONTHS, then it (they) will be considered abandoned property, and I will forfeit ownership. In such cases, the VMNH will handle the object(s) in accordance with its Collections Policies. (signature) _____ (date) _____

PURPOSE: _____ potential acquisition _____ request identification
 METHOD ACQUIRED:

- _____ GIFT (need donor signed Deed of Gift form attached to RIM)
- _____ INTERAGENCY TRANSFER (need copies of transfer documentation)
- _____ EXCHANGE (need copies of exchange documentation)
- _____ SALVAGED MATERIAL
- _____ PURCHASE: Price _____ Funds Used _____
- _____ FIELD WORK: General dates of field trip: _____

- Photographs? _____ YES _____ NO
- Field Notes? _____ YES _____ NO
- Permits? _____ YES _____ NO
- Correspondence? _____ YES _____ NO
- Other Data? _____ YES _____ NO

Locality: _____
 Field Numbers: _____
 Collectors(s): _____

TOTAL NUMBER OF ITEMS: _____ DATE SPECIMENS RECEIVED AT MUSEUM: _____

LOCATION OF SPECIMENS WITHIN MUSEUM: _____

List of Incoming Material:

# of specimens (and description)	Common Name (Genus Species Subspecies)	Locality Information (State, City/County, detail location information, include nearest waterbody)	Collector & Date(s) Collected
-------------------------------------	---	--	-------------------------------

For biological specimens, include the following in the information noted above:

- Lat/Long (in Decimal Degrees -you can get this info from websites (e.g., <http://itouchmap.com/latlong.html>)
- Type of Specimen(s) Collected (e.g., whole specimen, feather, nest, partial-what part)
- Distribution (where specimen is kept, was it brought to Martinsville, kept in Charlottesville, Newport News, etc.)
- Comments (include other pertinent information such as tags on the specimen)

IDENTIFICATIONS:

Made By: _____
 Date: _____
 Date Owner Notified (1) _____
 (2) _____
 (3) _____
 Date Material Returned: _____
 Date Material Abandoned: _____

POTENTIAL ACQUISITIONS:

Department Name: _____
 Date of Department Review: _____
 Under acquisition plan? _____ YES _____ NO
 Recommend To: _____ ACCEPT _____ NOT ACCEPT
 Recommend to Accession: _____ YES _____ NO
 Level of Care Assigned (see back of RIM for details): _____
 Reviewed By: _____

RIM NUMBER ASSIGNED: _____

ACCESSION NUMBER ASSIGNED: _____

RECORDED BY: _____
 DATE RECORDED: _____

DATE: _____ BY: _____
 VMNH Catalog Numbers: _____

APPENDIX VI. (back of form)

List of Incoming Material – continued:

# of specimens (and description)	Common Name (Genus Species Subspecies)	Locality Information (State, City/County, detail location information, include nearest waterbody)	Collector & Date(s) Collected
--	--	---	--

Care Level Information

Collections are maintained by the curatorial departments and the Department of Education and Public Programs for research as well as for education and exhibits. Specimens housed within these collections are defined by their relative significance for research and education and by the levels of supervision required for care and maintenance:

1) Strict Supervision - these include objects/specimens of greatest value for research purposes. They demand the highest level of supervision for use, management and conservation practices and the greatest security. These are frequently referred to as the "permanent collection" of an institution and are appropriate for indefinite retention. Primary and paratype specimens are included in this designation.

2) Moderate Supervision - these include good quality objects/specimens for use as reference material by the general public, for exhibit, for exchanges or for instructor use in educational programs. They demand supervised handling and careful management practices, but the restrictions on use are not as strict as with the first category.

3) Low Supervision - these include objects/specimens that require minimal or no supervision for handling. This category includes objects/specimens that have been deemed of no value for research or exhibit purposes as well as "hands on" material that may be used for teaching or exhibition purposes. Given the potential for damage and loss of these objects/specimens, these collections are not accessioned by the VMNH but are inventoried for management purposes.

It is the responsibility of the Research Curator or representative from DEPP, in consultation with appropriate staff, to recommend the designation of departmental specimens to these categories. These designations can change over time and will guide decisions concerning how the specimens are used. The coded designation is entered into the main catalog as a separate field which can be edited if a specimen's status is changed.



SITE VISIT FORM

Date of visit: _____ by: _____

Name of site/collection/institution: _____

Name of contact with collections: _____

Phone Number(s): _____

Has a Record of Incoming Material form been completed?	Yes	No
Has the collection been formally offered to the VMNH?	Yes	No
Or, is this a pre-offer visit?	Yes	No

IMPORTANCE OF COLLECTION, describe importance and general contents of collection:

QUANTITY AND PHYSICAL CONDITION, be as accurate as possible:

Quantity of specimens (individuals, lots, etc.):

Quantity, type, and condition of containers (i.e., current storage conditions, jars, lids, boxes, drawers, cases, kind of alcohol, etc.):

Do specimens show signs of deterioration? YES NO SOME
 If some do, what percentage? _____%

Are labels and/or accompanying documentation legible? YES NO SOME
 If some are not, what percentage? _____%



SITE VISIT FORM – continued

COVERAGE - TAXONOMIC or SCIENTIFIC NOMENCLATURE:

1. It is ALL of one major group (i.e., class, order, family, rock type, etc.)?
YES NO

2. List groups represented	MAJOR subgroups within each group	approx. quantity

3. What percentage of the material has been sorted by taxonomic group? _____%
And/or, by ecological grouping (or, by locality)? _____%

4. What percentage of the material has been identified at least to level of:

- a. Class _____%
- b. Order _____%
- c. Family _____%
- d. Genus _____%
- e. Species _____%
- f. Rock name _____%

5. What percentage of the material has scientific identifications directly attached to the specimens (as opposed to written field notes, in reports, in separate catalogs, etc.)?

6. If specimens have not been identified, can you recommend a specialist who might like to work with the VMNH to complete identification process?

COVERAGE – GEOPGRAPHIC or GEOLOGICAL PARAMETERS:

1. What percentage of the material is from:
- a. Virginia _____%
 - b. Coastal or Eastern US _____%
 - c. Other US regions _____%
 - d. Outside US _____%

Where:

List major suites or stratigraphic division(s):

2. What percentage has geographic data:

- a. Directly associated with the specimens? _____%
- b. ONLY available in field notes? _____%
- c. ALSO available in computer database? _____% Explain:

SITE VISIT FORM – continued



DATA AND DOCUMENTATION:

1. What kind of accompanying documentation exists?
- | | | | |
|----------------|-----|----|-----------|
| Field notes | YES | NO | |
| Photographs | YES | NO | |
| Permits | YES | NO | |
| Correspondence | YES | NO | |
| Reports | YES | NO | |
| Articles | YES | NO | |
| Other | YES | NO | Describe: |
2. Could these be transferred with the specimens? YES NO
If not, why not?

SUPPLIES AND EQUIPMENT:

1. Are there any supplies that might be donated with the collection? YES NO
If yes, please describe:
2. Is there any equipment that might be donated with the collection? YES NO
If yes, please describe:

SHIPPING AND TRANSPORTATION

1. Whose responsibility would it be to transport the collection to the VMNH?
2. Recommended method for transportation:

COMMENTS/SUGGESTIONS:

APPENDIX VIII. (front of form)



DEED OF GIFT

Received From:

Address:

Phone:

Donor's Tax Identification Number(s): _____
(Only need this if you declare a value and want a tax deduction.)

Specimen(s) and object(s) described below that have a declared value are first processed by the Virginia Museum of Natural History Foundation, an independent non-profit that does work on behalf of VMNH. The VMNH Foundation may then transfer said specimens/objects to the Museum, to be processed in accordance with the Museum's Collections Policies.

#Items/Description	Where Collected/Found?	When Collected/Found?	Value*
--------------------	------------------------	-----------------------	--------

* It is the donor's responsibility to provide value(s) of donated property claimed as charitable deductions.

This document is subject to conditions and provisions stated on reverse.

For the Donor: _____ Date: _____
Signature

Name and Title (please print)

For the Virginia Museum of Natural History: _____ Date: _____
Signature

Name and Title (please print)

Please sign, date, and return both copies of this form for countersignature, to:

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

APPENDIX VIII. (back of form)

**Conditions and Provisions
Regarding Gifts to The Virginia Museum of Natural History**

1. That the transfer of the item(s) noted on this document shall constitute an irrevocable and unconditional gift of same by the Donor to The Virginia Museum of Natural History, shall be subject to the terms and conditions governing the Museum's collection, and shall be subject to acceptance by the Director and/or the Board of Trustees in accordance with the Museum's Collections Policies.
2. That the transfer of these item(s) includes all rights, title, and interest in and to the above item(s) absolutely and forever.
3. That the Donor has the right to transfer said item(s), such item(s) being free and clear of all encumbrances.
4. That the item(s) described herein has/have been received by The Virginia Museum of Natural History with the understanding that the Donor is the legal owner of the item(s) at the time of acquisition by The Virginia Museum of Natural History, and that the Donor is not violating the laws of the United States or of any other nation regarding the collection, exportation, importation, sale or loan of such item(s). Should it be demonstrated otherwise, it is agreed that, at the discretion of The Virginia Museum of Natural History, the item(s) is/are to be returned, and any costs incurred by the Museum related to the proposed donation may be charged to the Donor.
5. That any information and documentation concerning the provenance of the item(s) listed herein shall be provided by the Donor to The Virginia Museum of Natural History.
6. That 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. The Museum may accept your valuation of your gift for insurance purposes but may not determine value for any purpose.

VIRGINIA FREEDOM OF INFORMATION ACT (Excerpts)

§ 2.2-3704. Public records to be open to inspection; procedure for requesting records and responding to request; charges; transfer of records for storage, etc.

A. Except as otherwise specifically provided by law, all public records shall be open to inspection and copying by any citizens of the Commonwealth during the regular office hours of the custodian of such records. Access to such records shall not be denied to citizens of the Commonwealth, representatives of newspapers and magazines with circulation in the Commonwealth, and representatives of radio and television stations broadcasting in or into the Commonwealth. The custodian may require the requester to provide his name and legal address. The custodian of such records shall take all necessary precautions for their preservation and safekeeping.

B. A request for public records shall identify the requested records with reasonable specificity. The request need not make reference to this chapter in order to invoke the provisions of this chapter or to impose the time limits for response by a public body. Any public body that is subject to this chapter and that is the custodian of the requested records shall promptly, but in all cases within five working days of receiving a request, provide the requested records to the requester or make one of the following responses in writing:

1. The requested records are being entirely withheld because their release is prohibited by law or the custodian has exercised his discretion to withhold the records in accordance with this chapter. Such response shall identify with reasonable particularity the volume and subject matter of withheld records, and cite, as to each category of withheld records, the specific Code section that authorizes the withholding of the records.

2. The requested records are being provided in part and are being withheld in part because the release of part of the records is prohibited by law or the custodian has exercised his discretion to withhold a portion of the records in accordance with this chapter. Such response shall identify with reasonable particularity the subject matter of withheld portions, and cite, as to each category of withheld records, the specific Code section that authorizes the withholding of the records. When a portion of a requested record is withheld, the public body may delete or excise only that portion of the record to which an exemption applies and shall release the remainder of the record.

3. The requested records could not be found or do not exist. However, if the public body that received the request knows that another public body has the requested records, the response shall include contact information for the other public body.

4. It is not practically possible to provide the requested records or to determine whether they are available within the five-work-day period. Such response shall specify the conditions that make a response impossible. If the response is made within five working days, the public body shall have an additional seven work days in which to provide one of the four preceding responses.

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C. Any public body may petition the appropriate court for additional time to respond to a request for records when the request is for an extraordinary volume of records or requires an extraordinarily lengthy search, and a response by the public body within the time required by this chapter will prevent the public body from meeting its operational responsibilities. Before proceeding with the petition, however, the public body shall make reasonable efforts to reach an agreement with the requester concerning the production of the records requested.

D. Subject to the provisions of subsection G, no public body shall be required to create a new record if the record does not already exist. However, a public body may abstract or summarize information under such terms and conditions as agreed between the requester and the public body.

E. Failure to respond to a request for records shall be deemed a denial of the request and shall constitute a violation of this chapter.

F. A public body may make reasonable charges not to exceed its actual cost incurred in accessing, duplicating, supplying, or searching for the requested records. No public body shall impose any extraneous, intermediary or surplus fees or expenses to recoup the general costs associated with creating or maintaining records or transacting the general business of the public body. Any duplicating fee charged by a public body shall not exceed the actual cost of duplication. The public body may also make a reasonable charge for the cost incurred in supplying records produced from a geographic information system at the request of anyone other than the owner of the land that is the subject of the request. However, such charges shall not exceed the actual cost to the public body in supplying such records, except that the public body may charge, on a pro rata per acre basis, for the cost of creating topographical maps developed by the public body, for such maps or portions thereof, which encompass a contiguous area greater than 50 acres. All charges for the supplying of requested records shall be estimated in advance at the request of the citizen.

G. Public records maintained by a public body in an electronic data processing system, computer database, or any other structured collection of data shall be made available to a requester at a reasonable cost, not to exceed the actual cost in accordance with subsection F. When electronic or other databases are combined or contain exempt and nonexempt records, the public body may provide access to the exempt records if not otherwise prohibited by law, but shall provide access to the nonexempt records as provided by this chapter.

Public bodies shall produce nonexempt records maintained in an electronic database in any tangible medium identified by the requester, including, where the public body has the capability, the option of posting the records on a website or delivering the records through an electronic mail address provided by the requester, if that medium is used by the public body in the regular course of business. No public body shall be required to produce records from an electronic database in a format not regularly used by the public body. However, the public body shall make reasonable efforts to provide records in any format under such terms and conditions as agreed between the requester and public body, including the payment of reasonable costs. The excision of exempt fields of information from a database

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or the conversion of data from one available format to another shall not be deemed the creation, preparation or compilation of a new public record.

H. In any case where a public body determines in advance that charges for producing the requested records are likely to exceed \$200, the public body may, before continuing to process the request, require the requester to agree to payment of a deposit not to exceed the amount of the advance determination. The deposit shall be credited toward the final cost of supplying the requested records. The period within which the public body shall respond under this section shall be tolled for the amount of time that elapses between notice of the advance determination and the response of the requester.

I. Before processing a request for records, a public body may require the requester to pay any amounts owed to the public body for previous requests for records that remain unpaid 30 days or more after billing.

J. In the event a public body has transferred possession of public records to any entity, including but not limited to any other public body, for storage, maintenance, or archiving, the public body initiating the transfer of such records shall remain the custodian of such records for purposes of responding to requests for public records made pursuant to this chapter and shall be responsible for retrieving and supplying such public records to the requester. In the event a public body has transferred public records for storage, maintenance, or archiving and such transferring public body is no longer in existence, any public body that is a successor to the transferring public body shall be deemed the custodian of such records. In the event no successor entity exists, the entity in possession of the public records shall be deemed the custodian of the records for purposes of compliance with this chapter, and shall retrieve and supply such records to the requester. Nothing in this subsection shall be construed to apply to records transferred to the Library of Virginia for permanent archiving pursuant to the duties imposed by the Virginia Public Records Act (§ [42.1-76](#) et seq.). In accordance with § [42.1-79](#), the Library of Virginia shall be the custodian of such permanently archived records and shall be responsible for responding to requests for such records made pursuant to this chapter.

(1968, c. 479, § 2.1-342; 1973, c. 461; 1974, c. 332; 1975, cc. 307, 312; 1976, cc. 640, 709; 1977, c. 677; 1978, c. 810; 1979, cc. 682, 684, 686, 689; 1980, cc. 678, 754; 1981, cc. 456, 464, 466, 589; 1982, cc. 225, 449, 452, 560, 635; 1983, cc. 372, 462, 607; 1984, cc. 85, 395, 433, 513, 532; 1985, cc. 81, 155, 502, 618; 1986, cc. 273, 291, 383, 469, 592; 1987, cc. 401, 491, 581; 1988, cc. 39, 151, 395, 411, 891, 902; 1989, cc. 56, 358, 478; 1990, cc. 217, 538, 721, 819, 968; 1991, cc. 213, 561; 1992, cc. 40, 150, 167, 200, 203, 207, 593, 612; 1993, cc. 205, 270, 296, 537, 552, 638, 750, 883; 1994, cc. [485](#), [532](#), [606](#), [839](#), [853](#), [918](#); 1995, cc. [299](#), [362](#), [499](#), [562](#), [638](#), [722](#), [812](#), [837](#); 1996, cc. [168](#), [469](#), [589](#), [599](#), [783](#), [786](#), [794](#), [855](#), [862](#), [902](#), [905](#), [1001](#), [1046](#); 1997, cc. [198](#), [295](#), [439](#), [567](#), [636](#), [641](#), [777](#), [782](#), [785](#), [838](#), [861](#); 1998, cc. [427](#), [891](#); 1999, cc. [438](#), [703](#), [726](#); 2001, c. [844](#); 2002, cc. [715](#), [830](#); 2003, cc. [275](#), [981](#), [1021](#); 2007, c. [439](#); 2009, c. [626](#); 2010, c. [627](#); 2011, c. [604](#).)

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§ 2.2-3705.7. Exclusions to application of chapter; records of specific public bodies and certain other limited exemptions.

The following records are excluded from the provisions of this chapter but may be disclosed by the custodian in his discretion, except where such disclosure is prohibited by law:

1. State income, business, and estate tax returns, personal property tax returns, scholastic and confidential records held pursuant to § [58.1-3](#).
2. Working papers and correspondence of the Office of the Governor; Lieutenant Governor; the Attorney General; the members of the General Assembly, the Division of Legislative Services, or the Clerks of the House of Delegates and the Senate of Virginia; the mayor or chief executive officer of any political subdivision of the Commonwealth; or the president or other chief executive officer of any public institution of higher education in Virginia. However, no record, which is otherwise open to inspection under this chapter, shall be deemed exempt by virtue of the fact that it has been attached to or incorporated within any working paper or correspondence.

As used in this subdivision:

"Office of the Governor" means the Governor; his chief of staff, counsel, director of policy, Cabinet Secretaries, and the Assistant to the Governor for Intergovernmental Affairs; and those individuals to whom the Governor has delegated his authority pursuant to § [2.2-104](#).

"Working papers" means those records prepared by or for an above-named public official for his personal or deliberative use.

3. Library records that can be used to identify both (i) any library patron who has borrowed material from a library and (ii) the material such patron borrowed.
4. Contract cost estimates prepared for the confidential use of the Department of Transportation in awarding contracts for construction or the purchase of goods or services, and records and automated systems prepared for the Department's Bid Analysis and Monitoring Program.
5. Lists of registered owners of bonds issued by a political subdivision of the Commonwealth, whether the lists are maintained by the political subdivision itself or by a single fiduciary designated by the political subdivision.
6. Records and writings furnished by a member of the General Assembly to a meeting of a standing committee, special committee or subcommittee of his house established solely for the purpose of reviewing members' annual disclosure statements and supporting materials filed under § [30-110](#) or of formulating advisory opinions to members on standards of conduct, or both.

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7. Customer account information of a public utility affiliated with a political subdivision of the Commonwealth, including the customer's name and service address, but excluding the amount of utility service provided and the amount of money paid for such utility service.

8. Personal information, as defined in § [2.2-3801](#), (i) filed with the Virginia Housing Development Authority concerning individuals who have applied for or received loans or other housing assistance or who have applied for occupancy of or have occupied housing financed, owned or otherwise assisted by the Virginia Housing Development Authority; (ii) concerning persons participating in or persons on the waiting list for federally funded rent-assistance programs; (iii) filed with any local redevelopment and housing authority created pursuant to § [36-4](#) concerning persons participating in or persons on the waiting list for housing assistance programs funded by local governments or by any such authority; or (iv) filed with any local redevelopment and housing authority created pursuant to § [36-4](#) or any other local government agency concerning persons who have applied for occupancy or who have occupied affordable dwelling units established pursuant to § [15.2-2304](#) or [15.2-2305](#). However, access to one's own information shall not be denied.

9. Records regarding the siting of hazardous waste facilities, except as provided in § [10.1-1441](#), if disclosure of them would have a detrimental effect upon the negotiating position of a governing body or on the establishment of the terms, conditions and provisions of the siting agreement.

10. Records containing information on the site specific location of rare, threatened, endangered or otherwise imperiled plant and animal species, natural communities, caves, and significant historic and archaeological sites if, in the opinion of the public body that has the responsibility for such information, disclosure of the information would jeopardize the continued existence or the integrity of the resource. This exemption shall not apply to requests from the owner of the land upon which the resource is located.

11. Records, memoranda, working papers, graphics, video or audio tapes, production models, data and information of a proprietary nature produced by or for or collected by or for the State Lottery Department relating to matters of a specific lottery game design, development, production, operation, ticket price, prize structure, manner of selecting the winning ticket, manner of payment of prizes to holders of winning tickets, frequency of drawings or selections of winning tickets, odds of winning, advertising, or marketing, where such official records have not been publicly released, published, copyrighted or patented. Whether released, published or copyrighted, all game-related information shall be subject to public disclosure under this chapter upon the first day of sales for the specific lottery game to which it pertains.

12. Records of the Virginia Retirement System, acting pursuant to § [51.1-124.30](#), or of a local retirement system, acting pursuant to § [51.1-803](#), or of the Rector and Visitors of the University of Virginia, acting pursuant to § [23-76.1](#), or of the Virginia College Savings Plan, acting pursuant to § [23-38.77](#), relating to the acquisition, holding or disposition of a security or other ownership interest in an entity, where such security or ownership interest is not traded on a governmentally regulated securities exchange, to the extent that: (i) such records contain confidential analysis for the Rector and Visitors of the University of

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Virginia, prepared by the retirement system or the Virginia College Savings Plan, or provided to the retirement system or the Virginia College Savings Plan under a promise of confidentiality, of the future value of such ownership interest or the future financial performance of the entity; and (ii) disclosure of such confidential analyses would have an adverse effect on the value of the investment to be acquired, held or disposed of by the retirement system, the Rector and Visitors of the University of Virginia, or the Virginia College Savings Plan. Nothing in this subdivision shall be construed to prevent the disclosure of records relating to the identity of any investment held, the amount invested, or the present value of such investment.

13. Names and addresses of subscribers to Virginia Wildlife magazine, published by the Department of Game and Inland Fisheries, provided the individual subscriber has requested in writing that the Department not release such information.

14. Financial, medical, rehabilitative and other personal information concerning applicants for or recipients of loan funds submitted to or maintained by the Assistive Technology Loan Fund Authority under Chapter 11 (§ [51.5-53](#) et seq.) of Title 51.5.

15. Records of the Virginia Commonwealth University Health System Authority pertaining to any of the following: an individual's qualifications for or continued membership on its medical or teaching staffs; proprietary information gathered by or in the possession of the Authority from third parties pursuant to a promise of confidentiality; contract cost estimates prepared for confidential use in awarding contracts for construction or the purchase of goods or services; data, records or information of a proprietary nature produced or collected by or for the Authority or members of its medical or teaching staffs; financial statements not publicly available that may be filed with the Authority from third parties; the identity, accounts or account status of any customer of the Authority; consulting or other reports paid for by the Authority to assist the Authority in connection with its strategic planning and goals; the determination of marketing and operational strategies where disclosure of such strategies would be harmful to the competitive position of the Authority; and data, records or information of a proprietary nature produced or collected by or for employees of the Authority, other than the Authority's financial or administrative records, in the conduct of or as a result of study or research on medical, scientific, technical or scholarly issues, whether sponsored by the Authority alone or in conjunction with a governmental body or a private concern, when such data, records or information have not been publicly released, published, copyrighted or patented.

16. Records of the Department of Environmental Quality, the State Water Control Board, State Air Pollution Control Board or the Virginia Waste Management Board relating to (i) active federal environmental enforcement actions that are considered confidential under federal law and (ii) enforcement strategies, including proposed sanctions for enforcement actions. Upon request, such records shall be disclosed after a proposed sanction resulting from the investigation has been proposed to the director of the agency. This subdivision shall not be construed to prohibit the disclosure of records related to inspection reports, notices of violation, and documents detailing the nature of any environmental contamination that may have occurred or similar documents.

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17. As it pertains to any person, records related to the operation of toll facilities that identify an individual, vehicle, or travel itinerary including, but not limited to, vehicle identification data, vehicle enforcement system information; video or photographic images; Social Security or other identification numbers appearing on driver's licenses; credit card or bank account data; home addresses; phone numbers; or records of the date or time of toll facility use.

18. Records of the State Lottery Department pertaining to (i) the social security number, tax identification number, state sales tax number, home address and telephone number, personal and lottery banking account and transit numbers of a retailer, and financial information regarding the nonlottery operations of specific retail locations; and (ii) individual lottery winners, except that a winner's name, hometown, and amount won shall be disclosed.

19. Records of the Board for Branch Pilots relating to the chemical or drug testing of a person regulated by the Board, where such person has tested negative or has not been the subject of a disciplinary action by the Board for a positive test result.

20. Records, investigative notes, correspondence, and information pertaining to the planning, scheduling and performance of examinations of holder records pursuant to the Uniform Disposition of Unclaimed Property Act (§ [55-210.1](#) et seq.) prepared by or for the State Treasurer, his agents, employees or persons employed to perform an audit or examination of holder records.

21. Records of the Virginia Department of Emergency Management or a local governing body relating to citizen emergency response teams established pursuant to an ordinance of a local governing body, to the extent that such records reveal the name, address, including e-mail address, telephone or pager numbers, or operating schedule of an individual participant in the program.

22. Records of state or local park and recreation departments and local and regional park authorities to the extent such records contain information identifying a person under the age of 18 years, where the parent or legal guardian of such person has requested in writing that such information not be disclosed. However, nothing in this subdivision shall operate to prohibit the disclosure of information defined as directory information under regulations implementing the Family Educational Rights and Privacy Act, 20 U.S.C. § 1232g, unless the public body has undertaken the parental notification and opt-out requirements provided by such regulations. Access shall not be denied to the parent, including a noncustodial parent, or guardian of such person, unless the parent's parental rights have been terminated or a court of competent jurisdiction has restricted or denied such access. For records of such persons who are emancipated, the right of access may be asserted by the subject thereof.

23. Records submitted for inclusion in the Statewide Alert Network administered by the Department of Emergency Management, to the extent that they reveal names, physical addresses, email addresses, computer or internet protocol information, telephone numbers, pager numbers, other wireless or portable communications device information, or operating schedules of individuals or agencies, where the release of such information would compromise the security of the Statewide Alert Network or individuals participating in the Statewide Alert Network.

24. Records of the Judicial Inquiry and Review Commission made confidential by § [17.1-913](#).

25. Records of the Virginia Retirement System acting pursuant to § [51.1-124.30](#), of a local retirement system acting pursuant to § [51.1-803](#) (hereinafter collectively referred to as the retirement system), or of the Virginia College Savings Plan, acting pursuant to § [23-38.77](#) relating to:

a. Internal deliberations of or decisions by the retirement system or the Virginia College Savings Plan on the pursuit of particular investment strategies, or the selection or termination of investment managers, prior to the execution of such investment strategies or the selection or termination of such managers, to the extent that disclosure of such records would have an adverse impact on the financial interest of the retirement system or the Virginia College Savings Plan; and

b. Trade secrets, as defined in the Uniform Trade Secrets Act (§ [59.1-336](#) et seq.), provided by a private entity to the retirement system or the Virginia College Savings Plan, to the extent disclosure of such records would have an adverse impact on the financial interest of the retirement system or the Virginia College Savings Plan.

For the records specified in subdivision b to be excluded from the provisions of this chapter, the entity shall make a written request to the retirement system or the Virginia College Savings Plan:

(1) Invoking such exclusion prior to or upon submission of the data or other materials for which protection from disclosure is sought;

(2) Identifying with specificity the data or other materials for which protection is sought; and

(3) Stating the reasons why protection is necessary.

The retirement system or the Virginia College Savings Plan shall determine whether the requested exclusion from disclosure meets the requirements set forth in subdivision b.

Nothing in this subdivision shall be construed to authorize the withholding of the identity or amount of any investment held or the present value and performance of all asset classes and subclasses.

26. Records of the Department of Corrections made confidential by § [53.1-233](#).

27. Records maintained by the Department of the Treasury or participants in the Local Government Investment Pool (§ [2.2-4600](#) et seq.), to the extent such records relate to information required to be provided by such participants to the Department to establish accounts in accordance with § [2.2-4602](#).

28. Personal information, as defined in § [2.2-3801](#), contained in the Veterans Care Center Resident Trust Funds concerning residents or patients of the Department of Veterans Services Care Centers, except that access shall not be denied to the person who is the subject of the record.

29. Records maintained in connection with fundraising activities by the Veterans Services Foundation pursuant to § [2.2-2716](#) to the extent that such records reveal the address, electronic mail address, facsimile or telephone number, social security number or other identification number appearing on a driver's license, or credit card or bank account data of identifiable donors, except that access shall not be denied to the person who is the subject of the record. Nothing in this subdivision, however, shall be construed to authorize the withholding of records relating to the amount, date, purpose, and terms of the pledge or donation or the identity of the donor. The exclusion provided by this subdivision shall not apply to protect from disclosure (i) the identities of sponsors providing grants to or contracting with the foundation for the performance of services or other work or (ii) the terms and conditions of such grants or contracts.

30. Names, physical addresses, telephone numbers, and email addresses contained in correspondence between an individual and a member of the governing body, school board, or other public body of the locality in which the individual is a resident, unless the correspondence relates to the transaction of public business. However, no record that is otherwise open to inspection under this chapter shall be deemed exempt by virtue of the fact that it has been attached to or incorporated within any such correspondence.

(1999, cc. [485](#), [518](#), [703](#), [726](#), [793](#), [849](#), [852](#), [867](#), [868](#), [881](#), § 2.1-342.01; 2000, cc. [66](#), [237](#), [382](#), [400](#), [430](#), [583](#), [589](#), [592](#), [594](#), [618](#), [632](#), [657](#), [720](#), [932](#), [933](#), [947](#), [1006](#), [1064](#); 2001, cc. [288](#), [518](#), [844](#), § [2.2-3705](#); 2002, cc. [87](#), [155](#), [242](#), [393](#), [478](#), [481](#), [499](#), [522](#), [571](#), [572](#), [633](#), [655](#), [715](#), [798](#), [830](#); 2003, cc. [274](#), [307](#), [327](#), [332](#), [358](#), [704](#), [801](#), [884](#), [891](#), [893](#), [897](#), [968](#); 2004, cc. [426](#), [690](#), [832](#); 2005, cc. [165](#), [508](#); 2007, cc. [406](#), [652](#), [660](#), [737](#), [739](#); 2008, cc. [16](#), [739](#); 2009, cc. [223](#), [827](#), [845](#); 2010, c. [300](#); 2011, cc. [827](#), [867](#); 2012, c. [726](#).)

APPENDIX X. (Front of Form)



INCOMING LOAN AGREEMENT

TO:	FROM:
ATTENTION:	ATTENTION:
DIVISION:	DIVISION:

<p>LOAN/INVOICE NUMBER: _____</p> <p>DATE OF INVOICE: _____</p> <p>SHIPPING INFORMATION:</p> <p>Date: _____ Method: _____</p> <p>Insured For: _____ UPS</p> <p>Packed By: _____ Postal – priority/airmail</p> <p>No. of Pkgs: _____ Truck freight</p> <p>Type of Container(s): _____ Overnight service</p> <p>Other: _____ Hand-carried</p> <p>By: _____</p>	<p>PURPOSE OF LOAN:</p> <p>_____ loan at lendee’s request (purpose: _____)</p> <p>_____ loan at VMNH request-research</p> <p>_____ loan at VMNH request-exhibit</p> <p>_____ potential exchange</p> <p>_____ potential gift</p> <p>LOAN DUE DATE: _____</p>
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LOAN APPROVED BY: _____ DATE: _____

Printed Name and Signature

SPECIES/ITEM DESIGNATION	SPECIMEN or CATALOG NUMBER(S)	QUANTITY AND DESCRIPTION/CONDITION	VALUE* (INSURANCE)

LENDER (signature): _____ DATE: _____

(Signature, Printed Name and Title)

BORROWER (signature): _____ DATE RECEIVED: _____

(condition noted above) (VMNH Staff, Printed Name and Signature)

Original signed form should be presented to the VMNH Registrar for processing.
This document is subject to the conditions and provisions stated on reverse.

APPENDIX X. (Back of Form)

Conditions and Provisions Regarding Incoming Loans to The Virginia Museum of Natural History

All specimens (Property) loaned to The Virginia Museum of Natural History (VMNH) are subject to the following conditions and provisions. All exceptions must be requested and granted in writing.

LENGTH OF LOANS

The length for each loan will be negotiated at the time of the loan, generally not to exceed six months. Specimens may not be forwarded to another institution without written permission from lender.

SPECIMEN CARE

Specimens are to be stored according to professional standards in cases and/or facilities that are free from hazards (insects, rodents, fire, vandalism, theft, water damage, etc.).

The lender provides his/her property in good condition, and the Museum may inspect and photograph it. The Museum agrees not to alter the Property, and to report any damage or other finding to the lender. The lender certifies that the Property lent is in good condition and will withstand ordinary strains of packing, transportation, and exhibition.

The Museum will not clean, restore, reframe or otherwise alter the Property covered by this loan without the written consent of owner(s) and agreement as to costs and responsibilities for payment of same.

The Museum assumes the right, unless specifically denied by the lender, to examine the Property according to the standard curatorial practices. Unless the Museum is notified in writing to the contrary, it is understood that the Property lent may be photographed for catalogue, educational, publicity, and archival purposes connected with the exhibition, and that slides of the Property may be made for educational use. Framed work will not be unframed for photography without the consent of the lender.

SHIPPING INSTRUCTIONS/RETURN OF PROPERTY

Copies of documentation verifying legal collecting and transportation activities should be included both inside the shipping container and in an envelope on the outside of the container (examples: USFWS importation & exportation forms, collecting permits from country of origin; CITES permits, etc.).

The Museum and lender agree as to when the Property will be returned, to whom and where. The lender may not withdraw the Property from loan until the end of the loan period. Also, the Museum establishes its right to return the Property at the end of the loan period without undue difficulty, prolonged delay or extraordinary expenses; and, to limit its liabilities with regard to these factors.

The Property will be returned only to the owner, or lender, or his duly authorized agent at the address stated on the reverse unless the Museum is otherwise instructed. If the legal ownership of the Property shall change during the period of the loan, whether by reason of death, sale, insolvency, gift or otherwise, the new owner will, prior to its return, be required to establish his legal right to receive the Property by proof satisfactory to the Museum. If the location of the new owner shall be of much greater distance than the point from which the loan was borrowed, the new owner will be required to pay any difference in the charges for the delivery of the Property.

The Property shall remain in the possession of the Museum and/or the other organizations participating in an exhibition for which it has been borrowed for the time specified on the reverse, but may be withdrawn from exhibition by the Museum or any of the participating organizations with the authorization of the Museum. The Museum's right to return the Property shall accrue absolutely at the termination of the loan period.

If the Museum, after making all reasonable efforts and through no fault of its own, shall be unable to reach the lender and return the Property, then, the Museum shall have the absolute right to place the Property in storage. If, after five years, the Property shall not have been reclaimed, then, the Museum shall pursue the ownership (entirely and without restriction, further claim, or interest) of the Property, pursuant with the Code of Virginia (§§55-210.31 through 55-201.38).

APPENDIX XI. (Front of Form)



OUTGOING LOAN AGREEMENT

TO: ATTENTION: DIVISION:	FROM: Virginia Museum of Natural History 21 Starling Avenue Martinsville, VA 24112 (276) 634-4141 ATTENTION: DIVISION:
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LOAN/INVOICE NUMBER: DATE OF INVOICE: SHIPPING INFORMATION: Date: _____ Method: _____ Insured For: _____ UPS Packed By: _____ Postal – priority/airmail No. of Pkgs: _____ Truck freight Type of Container(s): _____ Overnight service _____ Hand-carried Other: _____ By: _____	PURPOSE OF LOAN: _____ loan at borrower’s request-education _____ loan at borrower’s request-research _____ loan at VMNH request-research _____ loan at VMNH request-exhibit _____ potential exchange _____ potential gift LOAN DUE DATE: _____
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LOAN APPROVED BY: _____ DATE: _____
VMNH Staff Printed Name and Signature

SPECIES/ITEM DESIGNATION	SPECIMEN or CATALOG NUMBER(S)	QUANTITY AND DESCRIPTION/CONDITION	VALUE* (INSURANCE)

BORROWER (signature): _____ DATE: _____
(condition noted above) (Borrower’s Signature, Printed Name and Title)

LENDER (signature): _____ DATE RECEIVED: _____
(VMNH Staff, Printed Name and Signature)

- Please sign and return both copies, for countersignature. Please return forms to the VMNH Registrar at the address below.
- For extended length loans, we would appreciate an annual update/report that includes specimen photographs and the number of programs held using these specimens, including the approximate number of people served by said programs. Please send requested information to the VMNH Registrar at the address below.

Original signed form should be presented to the VMNH Registrar for processing.
 This document is subject to the conditions and provisions stated on reverse.

APPENDIX XI. (Back of Form)

Conditions and Provisions Regarding Outgoing Loans from The Virginia Museum of Natural History

All specimens loaned from The Virginia Museum of Natural History (VMNH) are subject to the following conditions and provisions. All exceptions must be requested and granted in writing. Failure to follow the Museum's guidelines may jeopardize future borrowing privileges.

LENGTH OF LOANS

The length for each loan will be negotiated at the time of the loan, generally not to exceed twelve months. Requests for extensions should be made in writing to the VMNH Registrar, two weeks to one month in advance of due date.

Specimens may not be forwarded to another institution without written permission from the VMNH.

SPECIMEN CARE

Specimens should be stored according to professional standards in cases and/or facilities that are free from hazards (excess temperature, humidity or light levels, insects, rodents, fire, vandalism, theft, water damage, etc.). The VMNH may recommend specific storage, display and handling guidelines for unusual or sensitive materials.

Specimens should not be repaired, sampled, dissected, remounted or in any way altered without written permission from the VMNH. Special permission is required for destructive testing or reproduction of any kind.

All original documentation accompanying the specimens must never be discarded or covered over (examples include original locality labels, previous identification labels, etc.). If specimens are used in public programs, they shall be displayed with signage stating that the specimens are on loan from the Virginia Museum of Natural History.

TYPE SPECIMENS

Type specimens are loaned only from certain divisions and are subject to restrictions. All types must be returned within 30 days of receipt by registered priority mail.

Invertebrates: Types for species originating from the VMNH must be returned to the Museum for deposit, even if specimens of the taxon (taxa) were previously ceded to specialists as desiderata. By prior written agreement, a portion of the type series may be retained by the specialist.

TAXONOMIC CHANGES

All material sent out on loan must be returned by the specified due date even if incorrectly identified. We would appreciate notification of taxonomic changes when material is returned.

Invertebrates: Unidentified invertebrate specimens identified by the specialist may be retained in part, as agreed to in correspondence (desiderata); major geographical localities, stages, and both sexes should be represented in series of specimens returned to the VMNH.

SHIPPING INSTRUCTIONS

The specimens are the responsibility of the borrower until received by the VMNH. Therefore, they should be packed and shipped according to national and international laws governing transportation, and in a manner similar to or better than as received. Wooden shipping containers must be returned to the VMNH. Types must be returned by registered priority mail.

Specimens must be insured for the value indicated on the original shipping invoice. Borrower is liable for any and all damage incurred during the period of the loan to any item borrowed from the VMNH, whether caused by its agents or any third party.

Copies of documentation verifying legal collecting and transportation activities should be included both inside the shipping container and in an envelope on the outside of the container (examples: USFWS importation & exportation forms, collecting permits from country of origin; CITES permits, etc.).

PUBLICATIONS

Authors are requested to send electronic or physical copies of any publication based in whole or in part upon material loaned from the Museum. Please mark these to the attention of the VMNH Registrar. The acronym "VMNH" should be used for citing the Museum's specimens.

APPENDIX XII.



INTERNAL LOAN AGREEMENT

FROM:
DIVISION:

TO:
DIVISION:

LOAN NUMBER:

Purpose of Loan (e.g., exhibit title, research):

LOAN START DATE:

DATE DUE:

APPROVED BY: _____ DATE: _____
(Staff Printed Name and Signature)

RECEIVED/BORROWED BY: _____ DATE: _____
(Staff Printed Name and Signature)

SPECIMEN/OBJECT NAME	ACCESSION NUMBER	CATALOG NUMBER	QUANTITY & DESCRIPTION OF CONDITION

All loaned specimens/objects are the responsibility of the borrower. All loaned material (specimens/objects) must be stored or displayed according to professional standards in cases and/or facilities that are free from hazards (e.g., excess temperature, humidity or lighting, insects, rodents, fire, vandalism, theft, water damage, etc.). All loans must be returned in the same condition as recorded above.

APPENDIX XIII.



DESTRUCTIVE ANALYSIS AGREEMENT

The sample of _____ specimen (s) from the collections of the Virginia Museum of Natural History (VMNH) is provided for destructive analysis with the following conditions:

1. Usable samples and unused portions of specimens will be returned to the VMNH so they can be retained for future use.
2. All resulting data, including raw data in the form of graphs, computer printouts, etc. pertaining to the listed specimens will be provided to the VMNH Registrar to become part of the specimen’s permanent record. Such data, except published reports, shall remain confidential for a period of two years following the close of the original loan due date. During this period, the name of the researcher may be given to others proposing to use VMNH specimens for similar research projects. In this case, the second researcher may be requested to obtain analytical results from the first researcher before the additional sampling requests may be approved.
3. Methods and the extent of sampling are thoroughly documented for each specimen according to departmental guidelines.
4. All costs of the analysis, including packing and shipping from and back to the Museum, are the responsibility of the researcher, unless otherwise indicated in writing.
5. Physical or electronic copies of any publication including information resulting from the analysis on the specimens will be provided to the VMNH Registrar and relevant Curator.

RESEARCHER

VIRGINIA MUSEUM OF NATURAL HISTORY

Researcher’s Signature and Date Signed

Curator’s signature and Date Signed

Researcher’s Name (printed)

Curator’s Name (printed) and VMNH Department

Researcher’s Phone Number and/or Email Address

Curator’s Phone Number and/or Email Address

Organization Name

Collections Committee Approved:

Address

YES

NO

Student Advisor’s Signature and Date Signed (if applicable)

Collections Manager’s Signature and Date Signed

Student Advisor’s Name (printed), Phone # and/or Email Address
[Advisor information needed for graduate and undergraduate students.]

Collections Manager (printed name)

APPENDIX XIV.



REPRODUCTION AGREEMENT

The specimen(s) _____ from the collection of The Virginia Museum of Natural History (VMNH) is provided for reproduction with the following conditions:

1. The methods and the extent of the reproduction processes are thoroughly documented for each object/specimen according to departmental guidelines. The reproduction process will not in any way permanently alter or cause any form of destruction to the object/specimen (s), which shall be returned to the VMNH in the same condition it was received.
2. Copyrights are retained by the VMNH and a notice of copyright appears on or with all reproductions. The credit line, "Virginia Museum of Natural History, www.vmnh.net" must appear in caption or list of credits for each reproduction.
3. Rights to reproduce are non-exclusive and are granted for one-time use only. Reproductions may not be reused, transferred, assigned, sold or otherwise disposed without written permission from the VMNH.
4. The VMNH store is the first avenue of sale and the VMNH should receive a given share of all receipts, as specified under a separate contractual agreement, to be drafted as needed. Separate contractual agreement terms/conditions are additional conditions to this form.
5. All costs of the reproduction activities, including packing and shipping from and back to the Museum, are the responsibility of the researcher, unless otherwise indicated in writing.
6. Copies of all resulting electronic data (e.g., 3D scans, CT scans, other imaging), pertaining to the listed objects/specimens, will be provided to the VMNH Registrar to become part of the object/specimen's permanent record.
7. Physical or electronic copies of any publication including information resulting from the analysis on the specimens will be provided to the VMNH Registrar and relevant Curator.

RESEARCHER

VIRGINIA MUSEUM OF NATURAL HISTORY

Researcher's Signature and Date Signed

Curator's signature and Date Signed

Researcher's Name (printed)

Curator's Name (printed) and VMNH Department

Researcher's Phone Number and/or Email Address

Curator's Phone Number and/or Email Address

Organization Name

Separate Contractual Agreement Applies:

Address

YES NO
(copy attached)

Student Advisor's Signature and Date Signed (if applicable)

Collections Manager's Signature and Date Signed

Student Advisor's Name (printed), Phone # and/or Email Address
[Advisor information needed for graduate and undergraduate students.]

Collections Manager (printed name)

**EXCERPTS FROM CODE OF VIRGINIA:
Chapter 11.2 Property Loaned to Museums**

§ 55-210.31. Definitions. As used in this chapter:

"Loaned property" means all museum property deposited on or after July 1, 2002, with a museum not accompanied by a transfer of title to the property.

"Museum" means an institution located in Virginia and operated by a nonprofit corporation or public agency whose primary purpose is educational, scientific or aesthetic, that owns, borrows or cares for, and studies, archives or exhibits museum property.

"Museum property" means all tangible objects, animate and inanimate, under a museum's care that have intrinsic value to science, history, art or culture, except for botanical or zoological specimens loaned to a museum for scientific research.

(2002, c. 883.)

§ 55-210.32. Status of loaned property; statute of limitations on recovery.

A. Except as may be otherwise provided in a written agreement between a lender and a museum, no action shall be brought against a museum to recover loaned property when more than five years have passed from (i) the receipt by the museum of written communication concerning the loaned property or (ii) any display of interest in the property by the lender as evidenced by a memorandum or other record on file prepared by an employee of the museum.

B. Loaned property shall be deemed to have been donated to the museum if no action to recover the property is initiated within one year after the museum gave notice of termination of the loan as provided in §§ 55-210.35 and 55-210.36.

C. Loaned property shall not be delivered to the Commonwealth, and shall be exempt from the provisions of Chapter 11.1 (§ 55-210.1 et seq.) of this title, but shall pass to the museum if no person takes action under Chapter 1 (§ 64.1-01 et seq.) of Title 64.1.

(2002, c. 883.)

§ 55-210.33. Notice to lenders of the provisions of this chapter.

When a museum accepts a loan of property, the museum shall inform the lender in writing of the provisions of this chapter.

(2002, c. 883.)

§ 55-210.34. Status of title to property acquired from museum.

Any person who purchases property from a museum acquires good title to the property if the museum represents that it has acquired title to the property pursuant to § 55-210.32.

(2002, c. 883.)

§ 55-210.35. Notice of termination of loan; content.

A. A museum may provide notice of termination on the museum's official Internet website, if any, or may give written notice of termination of a loan of property at any time if the property was loaned to the museum for an indefinite time. If the property was loaned to the museum for a specified term, the museum may give notice of termination of the loan at any time after the expiration of the specified term.

B. Notices given under this section shall contain:

1. The name and address, if known, of the lender;
2. The date of the loan;
3. The name, address, and telephone number of the appropriate office or official to be contacted at the museum for information regarding the loan; and
4. Any other information deemed necessary by the museum.

(2002, c. 883.)

§ 55-210.36. Procedure for giving notice; responsibility of owner.

A. To give notice of termination of a loan, the museum shall mail a notice to the lender at the most recent address of the lender as shown on the museum's records pertaining to the property on loan. If the museum has no address in its records, or the museum does not receive written proof of receipt of the mailed notice within thirty days of the date the notice was mailed, the museum shall cause to be published notice at least once a week for three consecutive weeks in a newspaper of general circulation in the county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located.

B. For purposes of this section, if the loan of property was made to a branch of the museum, the museum shall be deemed to be located in the city or county where the branch is located. In all other cases, the museum shall be deemed to be located in the city or county in which its principal place of business is located.

C. The owner of property loaned to a museum shall notify the museum promptly in writing of any change of address or change in ownership of the property.

(2002, c. 883.)

§ 55-210.37. Acquiring title to undocumented property.

A. A museum shall have the authority to acquire legal title to undocumented property if the museum can verify through written records that it has held such property for five years or longer, during which period no valid claim to the property has been asserted and no person has contacted the museum regarding the property, by complying with the following procedure:

1. The museum shall cause to be published a notice once a week for two consecutive weeks in a newspaper of general circulation in the county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located. The notice shall include:
 - a. A brief and general description of the property;
 - b. The date or approximate date of the loan or acquisition of the property by the museum, if known;
 - c. Notice of the museum's intent to claim title to the property if no valid claims are made within sixty-five days following the date of the first publication of the notice under this subdivision;
 - d. The name, address and telephone number of the representative of the museum to contact for more information or to make a claim; and
 - e. If known, the name and last known address of the lender.

2. If no valid claims have been made by the end of the sixty-five day period following the date of the first publication of the notice under subdivision 1 c of this subsection, the museum shall cause to be published a second notice once a week for two consecutive weeks in a newspaper of general circulation in the

county or city in which the museum is located, and in a newspaper of general circulation in the county or city of the lender's last known address, if different from the county or city in which the museum is located. The second notice shall include:

- a. A brief and general description of the property;
- b. The date or approximate date of the loan or acquisition of the property by the museum, if known;
- c. Notice that the museum claims title to the property as of the date of the end of the sixty-five day period following the date of the first publication of the notice under subdivision 1 of this subsection; and
- d. If known, the name and last known address of the lender.

B. Upon compliance with the requirements set forth in subsection A, clear and unrestricted title is transferred, as of the date specified in subdivision A 1 c of this section, to the museum and not to the Commonwealth.

(2002, c. 883.)

§ 55-210.38. Status of property loaned to or deposited with museum prior to July 1, 2002. Except as otherwise provided in a written agreement between a lender and a museum, property loaned to or deposited with a museum prior to July 1, 2002, may be discarded or transferred to another museum located in Virginia provided that (i) the notice provisions of §§ 55-210.35 and 55-210.36 have been complied with and (ii) such property is held by the museum receiving the transfer for at least three years before it sells or disposes of such property.

(2005, c. 480.)

APPENDIX XVI.

DEACCESSION FORM



Deaccession Number:

Description of specimens/items proposed to be deaccessioned:

ACCESSION NO. CATALOG NO. SPECIES/ITEM QUANTITY AND DESCRIPTION

Reason for proposed deaccession:

*Are there any known restrictions or conditions on the specimens(s)?
If yes, please describe:*

Attach appropriate documentation such as condition reports, letters of interest from receiving institutions, conditions for public sales, and appraisals.

Authority Requesting Action (Printed Name and Signature) Department Date

Collections Committee of the VMNH: Deaccession of specimens recommended? YES NO

VMNH Collections Committee Approval:

Collections Manager's Printed Name and Signature (on behalf of the VMNH Collections Committee) Date

VMNH Executive Director Approval:

(Printed Name and Signature) Date

VMNH Board of Trustees Research and Collections Committee Approval:

Committee Chair's Printed Name and Signature (on behalf of the VMNH BOT R&C Committee) Date

Virginia Museum of Natural History

Policies for Live Animals

11 August 2023 draft for Research & Collections Committee Vote

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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 on exhibit. 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.

A federal permit, issued by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, is required for the VMNH to display its colony of leaf-cutter ants. It is the responsibility of the VMNH Registrar to maintain current federal permits.

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:



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:

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, specimen(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 – page 1 of 19

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/618bf11a71fcd5398996eda/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/618bf11a71fcd5398996eda/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).

Baja Whip-spider (*Acanthophrynus coronatus*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Very little is known about this species. It is unknown at this time how to tell males from females, so to ensure the safety of each animal, they are housed separately. These animals were housed together when we received them, but aggression and cannibalism was observed, so they were separated.

General Care: Mist daily. Two adult crickets are added every week. This animal may also be hand-fed with forceps. Never add more than 2 crickets at a time. This prevents crickets breeding in the exhibit display as well as avoids injury to the whip-spider if it molts. Glass is cleaned daily with a wet paper towel.

Other Care: Since the exhibit display is set up with live plants, this exhibit gets stripped out **as needed**. While on display, trim plants as needed and make sure they are watered once a week. Individuals in the keeper area should receive the same care. This species should never be handled to ensure low stress levels. If you would like to show them to zoo guests for private tours, please keep them on the cork-bark and never touch them.

Moving or transferring a live tarantula: Move them on the cork-bark they use for hiding. Do not touch them in the process as this will frighten them and encourage them to run. This is a non-venomous, docile species, but extremely fast when disturbed. Simply move them to an empty tank if their “home” tank needs to be cleaned. A mixture of coconut fiber and potting soil can be used for the substrate. Always provide 3 pieces of cork bark, so they can hide. Soil should be at least 2 inches deep to ensure a semi-moist and humid environment.



Example of cork pieces for hiding areas.
Bark should always be vertical and close together.

Desert Rainworm (*Orthoporus ornatus*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Daily Care: Mist substrate in the morning and top off the water dish in the keeper area habitat as needed. Wipe and clean the glass with RO water.

- **Sunday:** Remove the old banana, cucumber, and sweet potato from both the public area habitat and the keeper area habitat. The public area habitat should get one – ¼ of a banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. The keeper area habitat should get one – ½ slice of banana with tetramin sprinkled on top, two chunks of sweet potato, two slices of cucumber, and a piece of romaine. Cat food should be added as needed to the dish in the keeper area. Please sprinkle powdered shrimp chitin on top of all the food.
- **Monday:**
- **Tuesday:** Remove the old banana, cucumber, and sweet potato from both the public area habitat and the keeper area habitat. The public area habitat should get one – ¼ of a banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. The keeper area habitat should get two – ½ slice of banana with tetramin sprinkled on top, two chunks of sweet potato, two slices of cucumber, and a piece of romaine. Cat food should be added as needed to the dish in the keeper area. Please sprinkle powdered shrimp chitin on top of all the food.
- **Wednesday:**
- **Thursday:** Remove the old banana, cucumber, and sweet potato from both the public area habitat and the keeper area habitat. The public area habitat should get one – ¼ of a banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. The keeper area habitat should get two – ½ slice of banana with tetramin sprinkled on top, two chunks of sweet potato, two slices of cucumber, and a piece of romaine. Cat food should be added as needed to the dish in the keeper area. Please sprinkle powdered shrimp chitin on top of all the food.
- **Friday:**
- **Saturday:**

Quarterly Care: The public area habitat should be stripped and cleaned quarterly. Remove any adults and subadults that may be on the props or in the leaf mold and place them in a critter keeper. Remove and wash the props with soap and water and rinse them thoroughly. Pour the old leaf mold* into a 4-gallon, square bucket which will be dated with masking tape, three days from the current date. This bucket will be placed in the freezer for the next 72 hours at -20 degrees Fahrenheit. The exhibit

Desert Rainworm (*Orthoporus ornatus*) – Continued

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

should be cleaned with soap and water and dried off with paper towels. About 1” of mostly leaf mold* mixed with a little sand, and coconut fiber (to give it a more natural look) should be placed in the habitat following all props and animals.

Yearly Care: About once or twice a year completely strip the keeper area habitat. Place the millipedes into a separate enclosure with paper towels and collect any substrate that has hatchlings or eggs. All excess leaf mold can be placed in a 4-gallon, square bucket which will be dated with masking tape, three days from the current date. This bucket will be placed in the freezer for the next 72 hours at -20 degrees Fahrenheit. The cork bark should be scrubbed and rinsed with water. Dry the rearing enclosure with paper towels. Fill a 10 gallon tank completely with leaf mold* except for the top 3”. The soil containing the hatchlings and eggs should be placed about 2” under the surface of leaf mold. Place cork bark on the surface of the substrate along with one – ½ slice of banana with tetramin sprinkled on top, two chunks of sweet potato, two slices of cucumber, one piece of romaine lettuce, a small dish with dry cat food, and a shallow water dish with gravel in it. Please sprinkle powdered shrimp chitin on top of all the food. Throughout the year, leaf mold can be added to the surface of the enclosure as needed. As this is the breeding tank, there should always be a hide as well as some fresh leaf mold. The millipedes tend to break it down quickly so keep an eye on the substrate levels.

*Leaf mold: All leaf mold used for husbandry has been collected from the outdoor leaf mold pile (which horticulture collects from zoo grounds) and placed in a large vacuum-sealed bag for 5 days. When the leaf mold is added to the bags, all sticks are removed by hand first in order to keep the bag intact when the air is vacuumed out. Currently the bags are being stored in the room that excess the fire stick display in the back vestibule. The air is vacuumed out of the bags at least twice during the 5 day period. This allows the leaf mold to keep its nutritional value as well as rid it of all potential pests/predatory species.



Emperor Scorpion (*Pandinus imperator*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Daily Care: Dead or eaten crickets should be removed from the exhibit daily with forceps. Adult crickets are added (amount depends on population and if live crickets remain from the previous day). Glass is cleaned daily with a wet paper towel. Mist entire tank and fill water dish. Clean the piece of glass that is used for the hiding spot. All white scorpion waste should be removed daily. Clean out water dish with soap and hot water. Rinse thoroughly. Change gravel if needed.

Monthly Care: Completely strip all enclosures. Scorpions can be removed and placed in a 10-gallon tank while cleaning their exhibit enclosure. Clean all plastic plants with hot water and soap. Replace them as needed. Refill exhibit display with two full scoops of coconut fiber or organic soil. Also add leaf litter for hiding places.

YOUNG SCORPIONS (see photo below)

If a female has young on her back, *carefully* separate her (and the young) from other adults into her own small enclosure. Make sure she has a low water dish and something to hide under. The hide should be tall enough for the female to walk into without disturbing the young. Plastic tubes cut in half in the clean room cabinet work well for this. Once she has entered the hide-a-away tube, **DO NOT DISTURB HER OR THE YOUNG AGAIN.** It will be tempting to check on them, but total privacy is needed for the young to develop and to also keep down aggression from the female (mother). Stress on the female may cause cannibalism on the young. The end of the plastic tube can be pushed up against the glass of the tank, so they will be visible inside by using a flashlight.

When feeding her, crush the head of a live adult cricket and hold it up to her claws until she takes it. Feeding the young is not yet necessary, as they will remain on her back for at least two weeks before they complete their first molt. Once the young have left her back and have molted (they will slowly darken in color), place the female back in with the other adult scorpions where she came from originally. Young can remain together in the small, separate tank until they are large enough to be combined with other collection scorpions. Now the young can be fed live pinhead crickets twice a week or as needed. **NOTE:** We sometimes leave the adult female with the young for up to two months just to be cautious. Emperor scorpions are great mothers! Leaving them with their young is not a concern, if the female is well fed.

Emperor Scorpion (*Pandinus imperator*) - Continued

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

Venomous Species Special Instructions: While this species has a mild venom, is not considered an aggressive animal. Handling them is acceptable. Use more caution with young scorpions, as they tend to be a little more aggressive. Baby scorpions are unable to sting, since their stinger cannot penetrate your skin. Use extreme care handling them, as they fall off your hand easily.



Scorplings/young with female

Giant African Millipede (*Archispirostreptus gigas*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Temperature & Humidity: Temperature: 75°F – 78°F Humidity: 80% - 90%

Daily Care: Mist substrate in the morning and top off dry cat food and water dish as needed. Wipe and clean the glass with RO water.

- **Sunday:** Remove the old bananas, cucumbers, and sweet potatoes from the exhibit. Replace them with one – ¼ slice of banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. Top off the cat food as needed. Please sprinkle powdered shrimp chitin on top of all the food. The keeper area should receive two - ¼ slices of banana with tetramin sprinkled on top, two slices of sweet potato, two slices of cucumber, as well as 2-4 pieces of romaine lettuce underneath their cork bark.
- **Monday:**
- **Tuesday:** R Remove the old bananas, cucumbers, and sweet potatoes from the exhibit. Replace them with one – ¼ slice of banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. Top off the cat food as needed. Please sprinkle powdered shrimp chitin on top of all the food. The keeper area should receive two - ¼ slices of banana with tetramin sprinkled on top, two slices of sweet potato, two slices of cucumber, as well as 2-4 pieces of romaine lettuce underneath their cork bark.
- **Wednesday:**
- **Thursday:** Remove the old bananas, cucumbers, and sweet potatoes from the exhibit. Replace them with one – ¼ slice of banana with tetramin sprinkled on top, one slice of sweet potato, and one slice of cucumber. Top off the cat food as needed. Please sprinkle powdered shrimp chitin on top of all the food. The keeper area should receive two - ¼ slices of banana with tetramin sprinkled on top, two slices of sweet potato, two slices of cucumber, as well as 2-4 pieces of romaine lettuce underneath their cork bark.
- **Friday:**
- **Saturday:**

Quarterly Care: The public area habitat needs to be completely stripped and cleaned. Collect any substrate containing eggs or hatchlings and place it in rearing enclosure 1 in the KA. Wash the display thoroughly with soap and water and then rinse it out. Dry the exhibit out and place styrofoam blocks in the back of the exhibit to prevent the animals from borrowing in the back off the display.

Giant African Millipede (*Archispirostreptus gigas*) – Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

Add approximately 6-8” of compost* around and on top of the styrofoam so that the millipedes can burrow in the front of the exhibit and slightly on top. Place a couple of curved pieces of cork bark up against the glass; these act as tunnels for the millipedes and provides them a dark place to crawl into. Place one – ¼ slice of banana with tetramin sprinkled on top, one slice of sweet potato, one slice of cucumber, and a small dish of dry cat food on top of the substrate. Please sprinkle powdered shrimp chitin on top of all the food. The adult millipedes should be rotated on and off exhibit each time that the exhibit is stripped. When placing adults back into the display,

count and sex them and record the number of males and females that were in the exhibit originally and how many were

placed onto exhibit afterwards. Record those numbers in ZIMS. Also record in ZIMS, if there were any eggs or hatchlings present in the exhibit that were moved into a rearing enclosure located in the keeper area.

Six - Month Care: Every six months, half of the keeper area habitat (40 gallon breeder tank) should be stripped out. This will allow for overlapping generations because the entire habitat is not being stripped all at once. Collect any substrate that has hatchlings or eggs and place them in another container until fresh compost* is added back into the habitat. Try not to disturb the soil containing the hatchlings and the eggs when moving it to prevent any damage from occurring. Any excess compost can be placed in a 4-gallon, square bucket which will be dated with masking tape, three days from the current date. This bucket will be placed in the freezer for the next 72 hours at -20 degrees Fahrenheit. The cork bark should be scrubbed and rinsed with water. Clean and dry the rearing enclosure with paper towels, a dobie scrubber, and RO water. Fill the empty half of the tank with compost except for the top 5”. The soil containing the hatchlings and eggs should be placed about 2” under the top most layer of compost. Place cork bark on the surface of the substrate along with 2 – ¼ slices of banana with tetramin sprinkled on top, two chunks of sweet potato, two slices of cucumber, a small dish of dry cat food, and a shallow water dish with gravel in it. Please sprinkle powdered shrimp chitin on top of all the food and add 2-4 leaves of romaine lettuce underneath of the cork bark. Record the presence of eggs and hatchlings into ZIMS. Throughout the year, compost can be added to the surface of the enclosures as needed.

Giant African Millipede (*Archispirostreptus gigas*) – Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



*Compost: All compost used for husbandry has been collected from the outdoor compost pile (which horticulture collects from zoo grounds) and placed in a large vacuum-sealed bag for 5 days. When the compost is added to the bags, all sticks are removed by hand first in order to keep the bag intact when the air is vacuumed out. Currently the bags are being stored in the room that excess the fire stick display in the back vestibule. The air is vacuumed out of the bags at least twice during the 5 day period. This allows the compost to keep its nutritional value as well as rid it of all potential pests/predatory species.

Giant Tropical Cockroach (*Blaberus giganteus*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Daily Care: Add tetramin and Mazuri Roach Diet as needed. Thoroughly mist the exhibit and wipe down the glass with a paper towel to clean it.

- **Sunday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get two - ¼ slices of apple dipped in tetramin, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed four – ¼ slices of apple with tetramin, a banana sliced in two halves with Mazuri Roach diet on top of each, and a half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well.
- **Monday:**
- **Tuesday:**
- **Wednesday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get two - ¼ slices of apple dipped in tetramin, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed four – ¼ slices of apple with tetramin, a banana sliced in two halves with Mazuri Roach diet on top of each, and a half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well..
- **Thursday:**
- **Friday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get two - ¼ slices of apple dipped in tetramin, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed four – ¼ slices of apple with tetramin, a banana sliced in two halves with Mazuri Roach diet on top of each, and a half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well.
- **Saturday:**

Quarterly Care: Once every three months the keeper area habitat will need to be cleaned and more compost* added if needed. The walls of the habitat should be wiped down with water and a paper towel.

6 Month Care: The keeper area habitat needs to be completely stripped out and cleaned. Remove all of the adults and nymphs from the habitat and place them into a 10 gallon tank with paper towels in them. Remove all substrate and place it in a 4 gallon, square bucket and date it with masking tape, three days from the current date. This bucket will be placed in the freezer for the next 72 hours at -20 degrees Fahrenheit. The four (or more) large pieces of cork bark should be scrubbed with water and

Giant Tropical Cockroach (*Blaberus giganteus*) - Continued

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

rinsed. The enclosure should be scrubbed with soap and water then dried with paper towels. Add three inches of compost to the bottom of the habitat. Next, add the pieces of cork bark back into the habitat as vertically as possible and finally add the adults and nymphs back to the habitat with fresh food.

*Compost: All compost used for husbandry has been collected from the outdoor compost pile (which horticulture collects from zoo grounds) and placed in a large vacuum-sealed bag for 5 days. When the compost is added to the bags, all sticks are removed by hand first in order to keep the bag intact when the air is vacuumed out. Currently the bags are being stored in the room that excess the fire stick display in the back vestibule. The air is vacuumed out of the bags at least twice during the 5 day period. This allows the compost to keep its nutritional value as well as rid it of all potential pests/predatory species.

Indian Ornamental Tarantula (*Poecilotheria regalis*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



General Care: Dead or eaten crickets should be removed from the exhibit daily with forceps. Adult crickets are added every other week. Check feed card for the last ‘feed’ date. This species will eat up to 2 crickets at once. Glass is cleaned daily with a wet paper towel. All white tarantula waste should be removed if seen. If needed, use forceps to wipe down glass of any waste material or water spots. **THIS IS AN EXTREMELY FAST SPECIES!** If the crickets are not eaten right away, display tank should be removed and taken to the keeper area for removal of any live prey. If this animal is not close to molting, it is acceptable to leave in live prey items. Check the next morning to ensure pretty items have been consumed. If they have not, remove them.

Weekly Care: Clean out water dish weekly with hot water. Change gravel if needed. See above for feeding instructions.

Monthly Care: The exhibit gets stripped out as needed. Clean all plastic plants with hot water and soap. Replace them as needed. Refill exhibit display with two full scoops of pine fines or cocopeat. If removing tarantula, keep them in the plastic moving container until exhibit display is cleaned, set back up, and ready to be returned to the exhibit. Since this animal is fast moving, it is more easily contained in a smaller container until it is ready to be back in its original enclosure.

Moving or transferring a live tarantula: This species is known for sitting on the side of the exhibit display tank. If this is the case, quickly place the open container over the animal and then gently walk them over the lid. **Always have a second keeper present when working with this species.**

Venomous Species Special Instructions: This species has a toxic venom and is considered dangerous to humans. Never handle this species and if removal of this animal is required, **always have a second keeper present for back-up.** If you are bitten, follow the Venomous Protocol Procedures. If bitten, see bite protocol below.

Indian Ornamental Tarantula (*Poecilotheria regalis*) - Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

BITE PROTOCOL

1. Secure the arthropod. If you cannot quickly and safely secure the arthropod request assistance from a co-worker.
2. Immediately notify a co-worker that you have been bitten or stung, and by what species.
3. Remove any jewelry from the affected hand/wrist.
4. Sit down near the telephone.
5. You or a co-worker are to call the Zoo's Security Base @ ext. 2222 and inform the dispatcher of your name, that you were bitten or stung and by what species, your current location, and your current condition.
6. The dispatcher will have someone trained in first-aid respond to your location.
7. You or a co-worker are to call Winton Ray (Curator of Invertebrates & Aquatic Animals) @ ext. 8346, 513559-8346 (office) or 513-430-0881 (cell) and inform him that you were bitten or stung and by what species, your current location and your current condition. He will contact further CZBG staff as appropriate.



IMAGE: Examples of plastic containers for moving tarantulas. Size of the container may vary depending on the size of the animal.

Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Daily Care: Add tetramin and Mazuri Roach Diet as needed. Wipe down the glass with a paper towel and RO water to clean it. Currently only males are displayed with the Magnificent Flower Beetles and the Diabolica mantids so care will have to be taken when switching out food.

- **Sunday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get one - ¼ slice of apple dipped in tetramin, one chunk of sweet potato, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed two - ¼ slices of apple with tetramin, two - ½ slices of banana with Mazuri Roach diet on top, and one chunk of sweet potato, half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well. The perimeter of the keeper area habitat opening should be lightly oiled using 3-In-1 multi-purpose oil.
- **Monday:**
- **Tuesday:**
- **Wednesday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get one - ¼ slice of apple dipped in tetramin, one chunk of sweet potato, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed two - ¼ slices of apple with tetramin, two - ½ slices of banana with Mazuri Roach diet on top, and one chunk of sweet potato, half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well. The perimeter of the keeper area habitat opening should be lightly oiled using 3-In-1 multi-purpose oil.
- **Thursday:**
- **Friday:** Remove old veggies from both the public area and keeper area habitats. The public area habitat should get one - ¼ slice of apple dipped in tetramin, one chunk of sweet potato, ½ slice of banana with Mazuri Roach Diet on top, and half of an ear of corn. The keeper area habitat should be fed two - ¼ slices of apple with tetramin, two - ½ slices of banana with Mazuri Roach diet on top, and one chunk of sweet potato, half of an ear of corn. The keeper area habitat should have a small dish of tetramin as well. The perimeter of the keeper area habitat opening should be lightly oiled using 3-In-1 multi-purpose oil.
- **Saturday:**

Monthly Care: Every month and a half the public area habitat should be stripped out, while the keeper area habitat should be stripped out once a month.

Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*) – Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

Public Area Habitat: Remove all of the adult roaches, mantids, and magnificent flower beetles and place them in critter keepers. Props should be removed and sprayed down with water. The substrate will be removed and sorted through for magnificent flower beetle larvae (see more in the Magnificent Flower Beetle husbandry SOP). The empty habitat should be scrubbed with RO water as well as paper towels and a dobie scrubber. Fresh compost* will be added to the habitat so that the bottom 3-4” is covered. The props can then be added back in and the entire habitat well misted. Add the animals and food back in.

Keeper Area Habitat (19.5”L x 19.5”W x 30”H): Remove all of the adults and nymphs from the habitat and place them into a 10 gallon tank with paper towels in them. Remove all substrate and place it in a 4 gallon, square bucket and dated with masking tape, three days from the current date. This bucket will be placed in the freezer for the next 72 hours at -20 degrees Fahrenheit. The pieces of wood and cork should be scrubbed with water and rinsed. The enclosure should be scrubbed with soap and water then dried with paper towels. The perimeter of the habitat opening should be lightly oiled using 3-In-1 multi-purpose oil. Finally, add about three inches of organic potting soil to the bottom of the habitat. Next, add the cork bark and wood back into the habitat along with the adults and nymphs.

*Compost: All compost used for husbandry has been collected from the outdoor compost pile (which horticulture collects from zoo grounds) and placed in a large vacuum-sealed bag for 5 days. When the compost is added to the bags, all sticks are removed by hand first in order to keep the bag intact when the air is vacuumed out. Currently the bags are being stored in the room that excess the fire stick display in the back vestibule. The air is vacuumed out of the bags at least twice during the 5 day period. This allows the compost to keep its nutritional value as well as rid it of all potential pests/predatory species.

Red-eyed Assassin Bug (*Plarymeris laevicollis*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



Daily Care: Dead or eaten crickets should be removed from the exhibit daily with forceps. New/live crickets are added daily. The amount of crickets depends on population and if live crickets remain from the previous day. Glass is cleaned daily with a wet paper towel. Remove any dead assassin adults. The keeper area tank is fed 3/8 inch crickets daily (amount depends on population). Add tetramin for excess crickets if needed to prevent predation on insects. Eggs for this species are laid in the substrate of the exhibit display.

Weekly Care: Keeper area rearing tank (10 gallon) is cleaned out weekly. Transfer all animals to fresh 10 gallon tank or thoroughly clean out the existing tank. Replace egg crate as needed (about every other week). Collect any adults and set up in the transfer container and place them on cart to be added to display during morning rounds the following day.

Monthly Care: The exhibit gets stripped out when hatchlings are observed, or every other month. Remove cork bark and any insects and place in a white bin (with the lid) in the clean room.

If saving hatchlings: Take exhibit substrate and place into a sweater box with holes drilled in the lid. Place ½ of an egg crate on top of the substrate. A post-it note gets added to the top of the sweater box and each hatchling removed is recorded on the post-it. Roughly 25-50 hatchlings are collected every other month, depending on how low the population of adults is at that time. Once you have collected enough hatchlings, freeze the substrate for three days before disposal. Back-up adults are housed in a 10-gallon tank in the keeper area. Rip apart 3 sheets of egg crate for hiding purposes. Substrate is not needed. *Males are slightly larger than females. Females maybe seen with their abdomen buried in the dirt, laying eggs.*

NOTE: If population of adults or nymphs remains high, saving eggs or hatchlings is **not needed**. Population of this species in the keeper area is reevaluated each time the exhibit is stripped. Too many adults may result in cannibalism, so refrain from keeping too many together in one exhibit or tank. Separating nymphs from adults is not needed, if enough food is provided. Keeping this species in one 10-gallon tank should suffice. If not, some individuals may need to be euthanized.

Red-eyed Assassin Bug (*Plarymeris laevicollis*) - Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

Venomous Species Special Instructions: The Red-eyed assassin bug is a venomous species with a powerful bite. This species is always worked in tandem with the second person acting as a spotter to make sure bugs do not escape or cause harm to the person servicing them. 10-12inch forceps should be used to remove any dishes, crickets or materials from the enclosure. Only fully trained staff should be working with this species. Be aware that this species is capable of spraying venom from their moveable proboscis.



Nymph



Adult surrounded by nymphs.

Red-knee Tarantula (*Brachypelma smithi*)

Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden



General Care: Dead or eaten crickets should be removed from the exhibit daily with forceps. Adult crickets are added every other week for the adult in the keeper area and once a week for the young individual on display. Check feed card for the last ‘feed’ date. If the crickets are not eaten right away, they should be removed. This species will eat up to 2 crickets at once. Glass is cleaned daily with a wet paper towel. All white tarantula waste should be removed if seen.

Weekly Care: Clean out water dish weekly with hot water. Change gravel if needed. See above for feeding instructions.

Monthly Care: The exhibit gets stripped out as needed. The tarantula can be removed and placed in a 10-gallon tank while cleaning their exhibit enclosure. Clean all plastic plants with hot water and soap. Replace them as needed. Refill exhibit display with two full scoops of pine fines or cocopeat mixed with sand (50/50 mixture).

Moving or transferring a live tarantula: Use the medium sized plastic container with the matching lid to move tarantulas (See image below). Do this by placing the lid on top of the soil. Then place the actual container over the tarantula and gently walk them over the lid. Use caution when sealing the lid to make sure legs are not trapped underneath.

Venomous Species Special Instructions: This species has a mild venom, but it is not considered dangerous to humans. Handling this tarantula is acceptable, if the animal remains calm. Do not hold this animal for more than 15 minutes at a time. This will help reduce stress. If bitten, see bite protocol below.

Red-knee Tarantula (*Brachypelma smithi*) - Continued
Animal Husbandry SOP, World of the Insect, Cincinnati Zoo & Botanical Garden

BITE PROTOCOL

1. Secure the arthropod. If you cannot quickly and safely secure the arthropod request assistance from a co-worker.
2. Immediately notify a co-worker that you have been bitten or stung, and by what species.
3. Remove any jewelry from the affected hand/wrist.
4. Sit down near the telephone.
5. You or a co-worker are to call the Zoo's Security Base @ ext. 2222 and inform the dispatcher of your name, that you were bitten or stung and by what species, your current location, and your current condition.
6. The dispatcher will have someone trained in first-aid respond to your location.
7. You or a co-worker are to call Winton Ray (Curator of Invertebrates & Aquatic Animals) @ ext. 8346, 513559-8346 (office) or 513-430-0881 (cell) and inform him that you were bitten or stung and by what species, your current location and your current condition. He will contact further CZBG staff as appropriate.



IMAGE: Examples of plastic containers for moving tarantulas. Size of the container may vary depending on the size of the animal.