

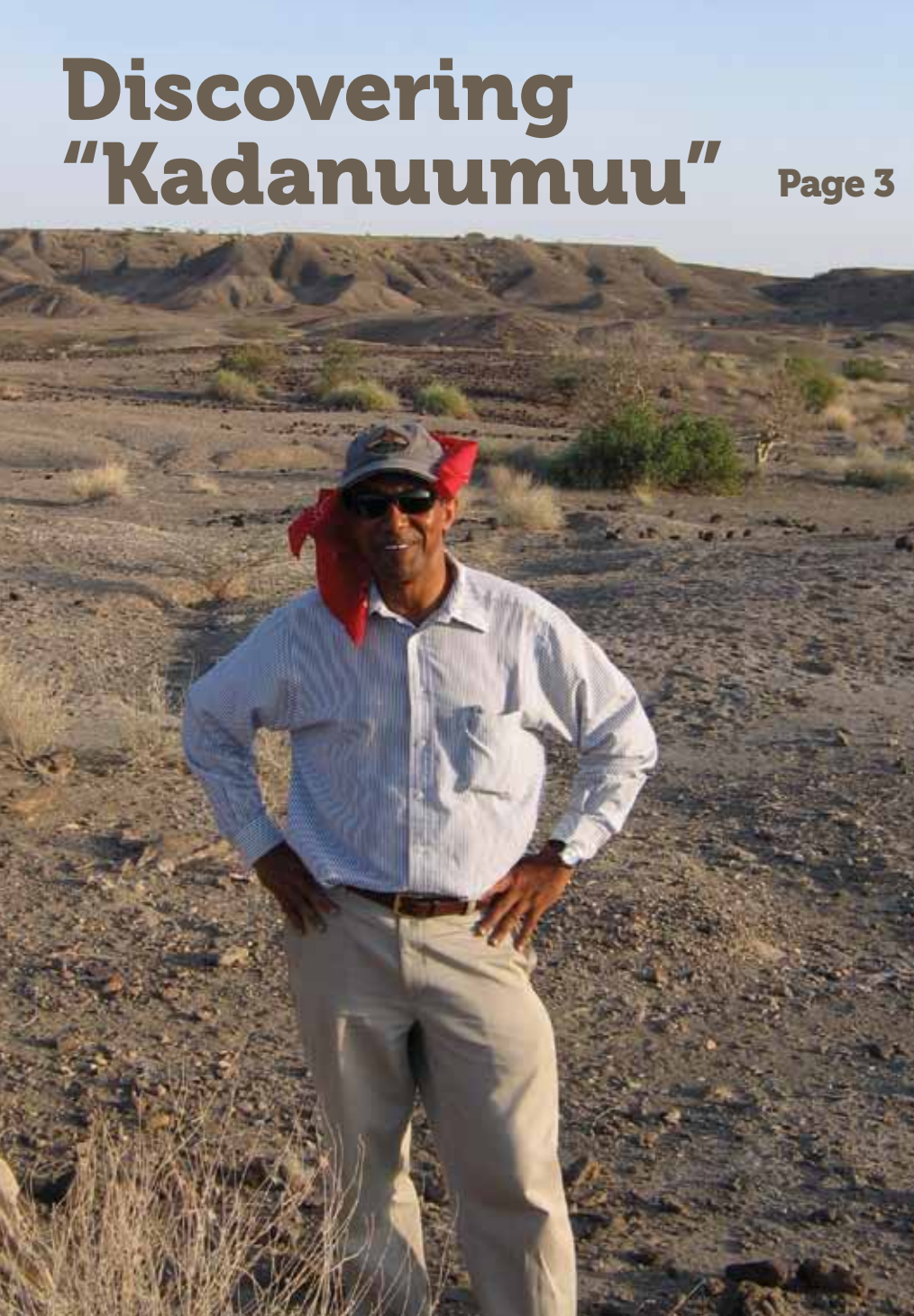
Tracks

Volume 38, Number 5

News from The Cleveland Museum of Natural History



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September/October 2010

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Cleveland Museum of
NATURAL HISTORY



Keeping Track with the Director

It's been a summer of exploration at the Museum, as our researchers, educators and volunteers headed out into the field, from our natural areas in northern Ohio to the Gobi desert. I haven't yet had time to join all of them (that will take years!) but I was invited to take part in a few adventures and delighted to hear field reports from several others.

The Museum continues its role as an international leader in hominid research with another groundbreaking discovery by one of our curators. Dr. Yohannes Haile-Selassie and his team announced the discovery of "Kadanuumuu," a 3.6 million-year-old *Australopithecus afarensis* fossil found in Ethiopia that has added critical new information about the transition to upright walking in these ancient human ancestors.

A bit closer to home, archaeologist Dr. Brian Redmond is uncovering details of prehistoric peoples who inhabited a site in northern Ohio. I spent part of a

day at the dig site and was fascinated by the scientific methods employed by his team of professional archaeologists, volunteers and students. Magnetic mapping technology is used to locate features under the soil that outline what would have been main structural components of early settlements at the site, giving an overview of the settlement and identifying areas of interest for detailed excavation. Digging deeper into these areas, Dr. Redmond has unearthed evidence pointing to three eras of occupation, the oldest dating back over 2,300 years.

After the dig, I returned to the Museum in order to leave the planet entirely, courtesy of the newly installed, state-of-the-art Sky-Skan projection system in the Shafran Planetarium, which was supported in part by the Leonard Krieger Fund of The Cleveland Foundation. The full-dome effects and high resolution of the new projection



system allow you to feel as though you are traveling through the Universe—past the planets in our own solar system, out of the Milky Way galaxy and deep into space. It's a breathtaking journey, and the word I heard from those seated around me as the lights came back up was a unanimous "awesome!"

We also had a full house of campers at the Museum all summer long, exploring the treasures of the Museum including the Perkins Wildlife Center. One group of campers constructed unique enrichment objects for our two bobcats, and I watched as the bobcats tackled what were essentially animal "piñatas" filled with fish bits instead of candy—a wonderful way to celebrate the end of camp and a great summer!

Curator introduces hominid fossil Partial skeleton confirms human-like walking is ancient

Meet "Lucy's" great-great-great grandfather. In June, Dr. Yohannes Haile-Selassie, Curator and Head of Physical Anthropology at the Museum, announced a rare and important discovery—a 3.6 million-year-old partial skeleton found in Ethiopia. The early hominid is 400,000 years older than the famous "Lucy" skeleton, which was found in 1974 by a team led by the Museum's curator at the time, Dr. Donald Johanson. Research on this new specimen indicates that advanced human-like, upright walking occurred much earlier than previously thought.

Selassie, who immediately recognized it as part of a lower arm bone, the ulna, belonging to an early human ancestor.

The partial skeleton was carefully excavated over five years. The excavation recovered the most complete clavicle and one of the most complete shoulder blades ever found in the human fossil record, as well as a significant portion of the rib cage.

The specimen was nicknamed "Kadanuumuu" (kah-dah-nuu-muu) by the research authors. "Kadanuumuu" means "big man" in the Afar language and reflects its large size. The male hominid stood between 5 to 5 ½ feet tall, while "Lucy" stood at about 3 ½ feet.

"This individual was fully bipedal and had the ability to walk almost like modern humans," said Haile-Selassie. "As a result of this discovery, we can now confidently say that 'Lucy' and her relatives were almost as proficient as we are walking on two legs, and that the elongation of our legs came earlier in our evolution than previously thought."

"'Lucy' will always be the icon of this species," said Haile-Selassie. "She

gave us the only information we had on the species. However, some of that information was misinterpreted because of her size and sex."

"Kadnumuu's" shoulder blade was a significant discovery. Research on this element shows that our ancestors' shoulder blade and rib cage were more similar to those of modern humans and less like those of chimpanzees. In addition, "Kadanuumuu" had a more robust pelvis than "Lucy." His pelvis and lower limb indicate that he was highly accomplished at upright walking.

Ancient partial skeletons are rare in the fossil record. Haile-Selassie has now found two: identifying "Kadanuumuu's" arm bone in 2005 and spotting the initial finger bone of *Ardipithecus ramidus* ("Ardi") in the Middle Awash area of Ethiopia's Afar region as a graduate student in 1994.



Photo courtesy: Woranso-Mille Project

Haile-Selassie led the excavation of the partial skeleton and was first author on research describing the early hominid. He collaborated with an international team of scientists from Kent State University, Case Western Reserve University, Addis Ababa University and Berkeley Geochronology Center. The discovery and results from this initial analysis were published in the July 6, 2010 issue of the journal *Proceedings of the National Academy of Sciences*.

Found in the Woranso-Mille area of Ethiopia's Afar region, the partial skeleton belongs to "Lucy's" species, *Australopithecus afarensis*. Alemayehu Asfaw, a member of the anthropology project team, found the first bone on Feb. 10, 2005, in Korsi Dora, Ethiopia. On the desert surface, he spotted a fragment of bone, which he thought might be from a meat-eating animal like a hyena. He showed it to project director Haile-

Haile-Selassie was part of the team that discovered and published research on the 4.4 million-year-old "Ardi," which was featured on the cover of the October 2, 2009 issue of the journal *Science*. "Ardi" was also named "Breakthrough of the Year" by *Science* in 2009.

Authors of the recent "Kadanuumuu" research include Dr. C. Owen Lovejoy, Kent State University professor of anthropology and Museum research associate; and Dr. Bruce Latimer, former Museum executive director and interim director of the Center for Human Origins at Case Western Reserve University.

Learn more about "Kadanuumuu" and view images and a video interview with Haile-Selassie at www.cmnh.org/site/Kadanuumuu.aspx.



Photo credit: Yohannes Haile-Selassie, Liz Russell, Cleveland Museum of Natural History. Used with permission from the Proceedings of the National Academy of Sciences.

Honoring Museum volunteers

On June 15, the numerous volunteers who dedicate their time and talents to the Museum were recognized during the annual Volunteer Appreciation Night. Museum leadership, trustees and staff were on hand to acknowledge the valuable contributions of these individuals.

Congratulations to Joseph Klunder, who received The Kent Hale Smith Award for Outstanding Voluntary Service. He has devoted more than 5,000 hours of service to the Vertebrate Paleontology Department.

In addition, the Museum's Outstanding Student Award was presented to Karis Tzeng for her contributions to Education through the Smead Discovery Center. The following volunteers were recognized for their service.

Service in excess of 5,000 hours:

Nathalie S. "Bunny" Bowell - Mineralogy - 5,500 hours
Lillian F. Brinnon - Archaeology & Education - 7,970 hours
Bruce William Elliott - Cultural Anthropology & Physical Anthropology, 8,000 hours
Janet Furcello - Wildlife Resource Center - 6,380 hours
Betty Koelliker - Botany - 7,295 hours

Dorothy Lungmus - Cultural Anthropology, Fine Arts & Museum Store - 9,210 hours
Mary Mahan - Museum Store - 8,230 hours
Barbara K. Neagoy - Botany - 8,000 hours
Perry K. Peskin - Paleobotany - 7,676 hours
Lillian B. Rubin - Education & Physical Anthropology - 9,200 hours
Dale Wilson - Botany & Paleobotany - 9,425 hours
Dale J. Zelinski - Vertebrate Paleontology - 5,575 hours

5,000 Hours of Service

John F. Abbott - Education & Archaeology
Joseph F. Klunder - Vertebrate Paleontology

2,500 Hours of Service

Judy Semroc - Natural Areas
Karl Smith - Archaeology

1,000 Hours of Service

Tom Bartlett - Natural Areas
Yvonne Carter - Archaeology
Phyllis Evey - Education & Physical Anthropology
Wayne Kriynovich - Astronomy
Mary Lou McGuire - Archaeology & Vertebrate Zoology
Peter Pesch - Ornithology & Wildlife Resource Center
Donna Pesch - Ornithology
Ruth Robbins - Volunteer Department
Larry Rosche - Natural Areas

500 Hours of Service

Matthew Bartolotta - Education & Wildlife Resource Center
Gerda Christine Carlson - Education & Ornithology
Linda Cepek - Education
Vicki Ford - Education & Astronomy
George A. Gilliam - Vertebrate Paleontology
Wayne Kriynovich - Astronomy
Cathi A. Lehn - Natural Areas
Ivan G. Nassar - Education
Daniel E. Pugh - Archaeology
Larry Rosche - Natural Areas
Gustov Waffen - Astronomy
Gilbert Jay Winer - Archaeology

150 Hours of Service

Christa Jo Abood - Education
Claudia L. Bennett - Wildlife Resource Center
Sherry L. Bradshaw - Physical Anthropology
Jane Brown - Education
Michael A. Bussey - Education
Patricia A. Cleary - Education
Dan Richard Cragin - Archaeology
Thomas David Gentile - Astronomy
Jane Glander - Education
Matthew Jeffrey Gueulette - Development & Vertebrate Paleontology
Matthew Hribar - Education
Joseph Petrusis - Archaeology
Roy J. Smith - Mineralogy
Holly Wingert - Education & Mineralogy

Thank you

Field school and laboratory lessons

College students spent their summer gaining hands-on experience

The Donald S. Dean Adopt-A-Student program, sponsored by the Kirtlandia Society, a Museum associated society, offers college students an opportunity to gain experience in scientific fields. Students work under the guidance of a curator for eight weeks to complete research projects that incorporate the Museum's collections and field work.

Students present the results of their projects at the Kirtlandia Society's August meeting. Following are details about this year's class and their projects. Visit www.cmnh.org to learn more about the Adopt-A-Student program.



Pictured are Adopt-A-Students and Future Connections interns, including (front, from left) Chelsea Cieker, Timothy Nevel, Anna Ormiston, Alexis Russell and Rachel Thornton; (back, from left) Veronica Fusco, Allison Machnicki, Terryn Mathis, Steven Meil, Cole Musial, Greylyn Hydingler and Marcus Jackson.

Steven Meil

Department: Archaeology; **Adviser:** Dr. N'omi Greber; **School:** The Ohio State University; **Project:** Participating in excavations at High Banks earthworks near Chillicothe to investigate anomalies that were found with geophysical surveys; **Best Experience:** Participating in the Heckleman dig

Greylyn Hydingler

Department: Botany; **Adviser:** Trish MacKeigan and Dr. Jim Bissell; **School:** Ohio Wesleyan College; **Project:** A community study at Mentor Marsh identifying species and doing forest density counts; **Best Experience:** Visiting Singer Lake

Veronica Fusco

Department: Invertebrate Paleontology; **Adviser:** Dr. Joe Hannibal; **School:** Oberlin College; **Project:** Looking for trends in millstone use throughout the Western Reserve and trying to determine changes in stone type through time as milling processes evolved; **Best Experience:** Visiting a mill in Youngstown

Rachel Thornton

Department: Mineralogy; **Adviser:** Dr. David Saja; **School:** Kent State University; **Project:** Research mapping of geology; **Best Experience:** Practical experience in the field and obtaining rock samples

Alexandra Cowper

Department: Physical Anthropology; **Adviser:** Dr. Yohannes Haile-Selassie; **School:** Miami University; **Project:** Researching the implications of diet in relation to the jaw throughout human evolution; **Best experience:** Discussing bones and fossils with colleagues and sharing ideas and an enthusiasm for physical anthropology

Allison Machnicki

Department: Physical Anthropology; **Adviser:** Dr. Yohannes Haile-Selassie; **School:** Kent State University; **Project:** Studying the lower back of humans, apes, monkeys and prosimians to better understand differences among primates; **Best Experience:** Dissecting monkeys

Geoffrey Goodman

Department: Vertebrate Paleontology; **Adviser:** Dr. Michael Ryan; **School:** Case Western Reserve University; **Project:** Field work in Alberta learning how to locate bonebeds, recover specimens and do prep work before transporting them, as well as analyzing specimens and bonebeds to learn as much as possible about the animals fossilized there; **Best Experience:** Recovering part of a *Styracosaurus* frill and hiking to look for new fossils

Cole Musial

Department: Vertebrate Zoology; **Adviser:** Dr. Tim Matson; **School:** Capital University; **Project:** Population studies at the Ashtabula River and Grand River dealing with mudpuppy populations to see if effects of lampricide are present; **Best Experience:** Survey work at the Ashtabula River

Anna Ormiston (Kirtlandia Research Intern)

Department: Wildlife Resources; **Adviser:** Harvey Webster and Michelle Leighty; **School:** Kent State University; **Project:** A behavioral study of cone photo receptors in foxes to determine how they see colors in comparison with other animals; **Best Experience:** Holding Sweetie, the Red-tailed Hawk, on a glove

In addition to Adopt-A-Students, Museum staff worked with numerous college and high school interns throughout the summer. Future Connections, a University Circle program, provides the Museum with high school students for four weeks before the students spend another four weeks at area businesses.

The science of disease

Exhibition puts spotlight on disease detection and prevention

Museum visitors are invited to take on the role of infectious disease-fighting sleuths when the exhibition *Disease Detectives* opens October 9. Developed by the Science Museum of Minnesota, the exhibition explores epidemiology.

Disease Detectives introduces visitors to three illness case studies, all represented by interactive mannequin "patients." Visitors will have the opportunity to examine each patient—taking their temperatures and listening to their hearts, lungs and bowels—and assess their symptoms in order to determine what is making them sick.

Then visitors will step into the laboratory, where they'll analyze test results and try to trace the origins of the microbes at the root of their patients' illnesses. Once they've completed their analysis of the situation, they can visit the case study's Answer Station to see if their conclusions are correct.

As visitors explore each infectious disease mystery, they'll discover the incredible mechanisms the human body has to prevent illness, the methods with which infectious diseases spread from person to person and the basics of epidemiology.

Highlights include:

Microbe Dance – In this full-body activity that is modeled after the popular Dance Dance Revolution video game, visitors use hand and foot controls to identify, treat and prevent disease-causing microbes. A large screen allows onlookers to get into the game as well.

Infectious Diseases in the News – This computer kiosk is linked to the Science Museum of Minnesota's Science Buzz online community and will keep visitors up-to-date on the latest infectious disease advances and current outbreaks. In addition, visitors can interact with the Science Buzz community, responding to news stories and blog posts, and even asking questions and posting their own comments to the blog.

Our Bodies Play Killer Defense – Here visitors will learn that microbes are all around us, but our bodies are remarkably equipped to defend against most of them. They'll have the chance to explore our bodies' tools that protect us from the numerous invisible invaders that surround us.

Infectious Diseases Through Time – Infectious diseases are by no means new to humans, nor are they likely to disappear anytime soon. In this area, visitors will follow a timeline that covers more than 200 years—and infectious



diseases like tuberculosis, small pox, HIV/AIDS and cholera—to see just how profoundly infectious diseases play a role in our history.

Visitors can continue their *Disease Detectives* experience by logging onto the exhibition's companion Web site, www.diseasedetectives.org. It provides in-depth information, personal profiles of real-life disease fighters, and numerous interactive games and activities that will extend their exploration of the science of infectious diseases.

Disease Detectives was made possible by a Science Education Partnership Award grant from the National Center for Research Resources, a component of the National Institutes of Health.

The exhibition will be on display through January 23, 2011.



THE GENOGRAPHIC PROJECT

Journeying into our collective past

Go beyond your roots to explore your routes. This exhibition uses stunning National Geographic imagery to detail how DNA is being used as a study tool to unlock the secrets surrounding the ancestral journey of mankind from its birthplace in Africa. *The Genographic Project* highlights cutting-edge research that takes genealogy beyond the traditional family tree to investigate the deep ancestry of our shared migratory stories.

Through
September 12

Brain-building summer adventures

Music, theater, hiking, experiments, animal care and dissections galore . . . it was a busy summer at the Museum! All 11 weeks of summer camp sessions sold out. A total of 282 children from grades 1 through 10 expanded their artistic aptitude and science skills by participating in Circle Sampler Camp, Junior Medical Camp and the brand-new Junior Veterinary Camp. In addition, Wildlife Resources staff hosted an animal camp with The Gathering Place to teach nurturing and coping skills to children touched by cancer.

Scholarships for Circle Sampler Camp were funded by a grant from the Martha Holden Jennings Foundation. Scholarships to Junior Medical and Junior Veterinary camps were provided by proceeds from the Kelley Cup Golf Classic and gifts from Bruce and Brenda Goodman and Bob and Janet Neary.



Making Tracks

The Museum's digital 2008-2009 Annual Report won a 2010 Communicator Award of Excellence presented by the International Academy of Visual Arts. It was also a finalist in the 2010 Stevie Awards presented by the American Business Awards.

A new male Barn Owl has joined the Museum's educational teaching corp of animals. The 5-month-old was captive born and hand raised at the Hawk Creek Wildlife Center in New York. He will be trained for use in educational programs, live animal programs as well as outreach programs offered by Wildlife Resource Center staff. At press time, the male had not yet been named. He joins two 3-year-old females, Whisper and Shriek, who are on permanent display in the Perkins Wildlife Center & Woods Garden.

A new bicycle rack now adorns the front exterior entrance to the Museum. Not only is it convenient for visitors to use; it reinforces the message that sustainable, low-carbon transportation is encouraged at the Museum.

Staff news



Dr. Joe Hannibal, Curator of Invertebrate Paleontology, was elected a fellow of the Geological Society of America. Fellows of the society have included

a number of distinguished Northeast Ohio geologists including Jesse Hyde (1884-1936), the Museum's first Curator of Geology. The origins of the society, an international society headquartered in

Boulder, Colorado, can be traced to an 1888 meeting in Cleveland.



Dr. Yohannes Haile-Selassie, Curator of Physical Anthropology, was lead author on a paper describing "Kadanuumuu," 3.6 million-year-old partial

skeleton. The paper, titled "An early *Australopithecus afarensis* postcranium from Woranso-Mille, Ethiopia," was published in the July 6, 2010, Vol. 107, No. 27, issue of the *Proceedings of the National Academy of Sciences*. Co-authors included **Dr. Bruce Latimer**, the Museum's former executive director who is currently interim director of the Center for Human Origins at Case Western Reserve University, and **Dr. C. Owen Lovejoy**, Kent State University professor of anthropology and Museum research associate.



Dr. Michael Ryan, Curator of Vertebrate Paleontology, co-authored a paper titled "Mammalian tooth marks on the bones

of dinosaurs and other Late Cretaceous vertebrates" that was published in the July 2010, Vol. 53, Issue 4, edition of the journal *Palaeontology*.

Dr. Shya Chitale, Curator of Paleobotany, received the 2010 Award for Contributions to Paleobotany from The Paleobotanical Section of the Botanical Society of America.



Thomas Pucci, Assistant Curator of Invertebrate Zoology, co-authored an article titled "Interspecific mouthpart length variation and floral

visitation in the parasitic wasp genus *Agathirsia* (Braconidae: Agathidinae)" that was published in *Annals of the Entomological Society of America*. GreenCityBlueLake Institute Director



David Beach served as adviser to the Collegiate Sustainability Practices Consortium, a group of administrators from six local colleges and

universities, including Baldwin-Wallace College, Case Western Reserve University, Cleveland State University, Cuyahoga Community College, John Carroll University and Oberlin College. Members of the consortium met over the academic year to share sustainability best practices. In June, GCBL staff hosted the group's concluding meeting.

GCBL Institute Director **David Beach** wrote an essay titled "Deep Water" that was published in the 2010 *Urban Infill* Volume No. 3 "Water/craft" anthology published by Kent State University's Cleveland Urban Design Collaborative. The publication examines themes in contemporary urban design, urban architecture and planning.

Nature of Giving

Clare Walker has a passion for people, travel, sailing and the Museum, where she volunteers in the Museum Store. Walker began her volunteer career at the Museum in 1991 after retiring from a 38-year career as a child psychologist at the Cleveland Clinic.

Her passion for people—particularly young people—is satisfied by observing interactions between families during their visits to the Museum. Walker enjoys seeing parents explain to their children the exhibits and specimens they encounter, encouraging them to expand their understanding of the world around them. Walker occasionally engages in these interactions, providing teachable moments for children.

While Walker is not a naturalist by training, she values the important research

and educational programs that the institution's curators and educational staff provide to the region and beyond.

"I see evidence of the deep commitment the staff has for their work and the emotional integrity of their involvement in all aspects of the Museum," she said. She finds it rewarding to be a part of the Museum family and looks forward to seeing the Museum expand under its new leadership.

Walker's volunteerism to the Museum is a gift in itself. In addition, she decided several years ago to make a meaningful gift of a Charitable Gift Annuity to the Museum. She chose a gift that met both her needs and her desire to benefit the Museum. Her CGA continues to provide income for both her and the Museum, allowing her to give back to an organization that does important work—and one that has given her so much personal satisfaction.



Trash or stash no more

Smear Discovery Center staff continues its efforts to recycle, reuse, repair, repurpose and compost in order to reduce waste. They have been closely tracking their conservation savings, which has really added up. Discovery Center Coordinator Beth Gatchell estimates that from July 2008 through August 2010, they have kept 2,145 pounds of waste out of landfills and saved \$7,759.

The savings are realized by using donated letterhead and other materials for crafts, donating dress-up clothes to

community groups to be turned into rag rugs and repairing puzzles instead of discarding them. They also measure their savings by calculating replacement costs of items they repair, such as furniture, puzzles and toys.

Staff members teach visitors about reducing waste and taking sustainable actions at home. They also encourage them to donate old or broken toys so that they can be used to create new playthings through the Discovery Center's partnership with Happen, Inc. of Cincinnati.



museum STORE

Dig into your past through DNA and trace your ancestry with the popular Genographic Project Kit. Priced at \$110, the kits have been flying off the Museum Store shelves. For kids, there is a "Genetics, DNA and Characteristics" hands-on experiment kit for \$6.99. You can also pick up titles to supplement your sleuthing, including: *Deep Ancestry: Inside the Genographic Project* (\$12.95) and *The Usborne Introduction to Genes & DNA* (\$11.99). Plus, check out our new Museum logowear and selection of smart toys.

Consider "Rounding It Up" when you make your next Museum Store purchase. By rounding up the change of your purchase price to the next dollar amount, you can support Museum programs. Since mid-June, shoppers have generously donated more than \$700, which has been designated to benefit the animals of Perkins Wildlife Center & Woods Garden.



Hours: Monday through Saturday, 10 am to 5 pm; Wednesday, 10 am to 8:30 pm; and Sunday, noon to 5 pm. Or shop online anytime at www.cmnh.org.

Acknowledgments

The Museum gratefully acknowledges the following gifts and grants made from **May 1 through June 30, 2010.**

The Women's Committee renewed their support of the Explorer Series with a gift of \$27,500 for the 2010-2011 season. They also made a contribution of \$7,000 to the 2009-2010 Annual Fund, in recognition of their 70th anniversary.

The **Grimm Family Foundation** granted \$8,000 to the Annual Fund, \$5,000 to the Natural Areas Department and \$3,000 to the Perkins Wildlife Resource Center in support of the Cooper's Hawk.

A grant of \$25,000 from **The Louise H. and David S. Ingalls Foundation** will support the ongoing stewardship of the Museum's Natural Areas.

The **Parma Hospital Health Care Foundation** renewed its support of Health on Wheels for the 2010-2011 school year with a grant of \$8,870, which will provide health education outreach to students in the Parma City and Brooklyn City school districts.

The **Sears-Swetland Family Foundation** granted \$2,500 to the GreenCityBlueLake Institute to support the work of an intern to create an open access asset map of sustainable programs in Greater Cleveland.

The following individuals generously contributed \$1,500 or more to the Museum's Annual Fund and/or to a designated fund and therefore have been named to **The Linnaean Society.**

Linnaean Kingdom (\$10,000 and above)

Richard and Susan Grimm
Thomas and Kathleen Leiden
Dan and Marjorie Moore
Thomas and Katharine Morley
William and Amelia Osborne
Tim and Heather Ryan
Frederick and Betsy Stueber
Jean Hower Taber

Linnaean Phylum (\$7,500-\$9,999)

C. W. Eliot and Linda Paine

Linnaean Class (\$5,000-\$7,499)

James and Mary Bright
Hamilton and Lillian Emmons
Scott and Josephine Inkley
George and Susan Klein
Joseph and Marla Shafran
Ronald and Kathleen Vranich
Dickson and Ann Whitney

Linnaean Order (\$2,500-\$4,999)

Anonymous (1)
H. William and Diane Christ
Amos and Samantha Crowley
Charles M. Greenwald, M.D.
Peter J. Krembs
Robert and Jean Mathews

Linnaean Family (\$1,500-\$2,499)

David and Robyn Barrie
Mrs. Mary Alice Cannon
H. Clark Harvey and Holly Selvaggi
William and Judith Hoislbauer
Mrs. Judith C. Murch
Peter and Donna Pesch
Albert and Audrey Ratner
Greg and Joyce Studen
Charles Thomas
Betty Weiss

The following organizations generously contributed \$1,000 or more to the Museum's Annual Fund and/or to a designated fund and therefore have been named to **The Corporate Partners Program.**

Corporate Heron (\$10,000-\$24,999)

The Leiden Cabinet Company
The Lincoln Electric Foundation

Corporate Fellow (\$5,000-\$9,999)

Archaeological Networks, Inc.
The Lube Stop, Inc.
The Lubrizol Foundation

Corporate Benefactor (\$2,500-\$4,999)

Mitsubishi Pharma Development America, Inc.
Smith & Oby Company
Troutwest

Corporate Patron (\$1,500-\$2,499)

Calfee, Halter & Griswold, LLP

Corporate Contributor (\$1,000-\$1,499)

Knotice, Ltd.
Panzica Construction Co.

The Museum has made every effort to include all appropriate names. If you are aware of any gifts not honored, please contact Jeffrey Gueulette, Director of Annual Giving, at (216) 231-4600, ext. 3287.



The Museum gratefully acknowledges the citizens of Cuyahoga County for their support through Cuyahoga Arts and Culture.

Museum Lectures and Events

EXPLORER Series

Join us as we kick off an exciting season of the *Explorer Series*. Each evening begins at 5:30 pm with live music, Museum exhibitions and galleries, shopping and raffle sign up in the Museum Store, and food and beverages for purchase. All presentations begin at 7:30 pm in Murch Auditorium. Following each program, there will be time for questions and answers. Afterward, select speakers will sign their books and, on clear nights, the Ralph Mueller Observatory will be open.

BE CURIOUS

Einstein's Telescope: The Hunt for Dark Matter and Dark Energy

Dr. Evalyn Gates, astrophysicist
Friday, October 1, 7:30 pm

What is the mysterious dark matter that dominates the cosmos? What strange substance, dubbed dark energy,



constitutes the bulk of the universe? How can we answer these questions when neither dark matter nor dark energy can be seen with

even our most powerful telescopes? Dr. Evalyn Gates, the Museum's executive director and chief executive officer, will address these questions and explain how Einstein's Theory of General Relativity is making it possible for scientists to use space itself as a telescope—one that is far more powerful than anything we could ever build here on Earth. Einstein's Telescope can magnify distant galaxies, map out dark matter and trace dark energy. *Book signing to follow.*

Forensic Seismology and Nuclear Testing: The Detective Work of Seismologists

Dr. Brian W. Stump, geologist and seismologist
Friday, October 15, 7:30 pm

Co-sponsored by the Incorporated Research Institutions for Seismology



The Global Seismic Network allows seismologists to examine large events occurring around the world and determine if they

were caused by a nuclear test or an earthquake. Dr. Brian Stump, Albritton chair of geological sciences at Southern Methodist University, will explain how seismologists—acting much like detectives—can examine the seismic data from a large event under the Earth's surface to determine where and when the event occurred and what caused it. This program is offered in conjunction with Earth Science Week.

Rowing the Atlantic

Katie Spotz, adventurer and world record-holder rower
Friday, October 29, 7:30 pm

After 70 days alone at sea, 22 year-old Katie Spotz of Mentor, Ohio, became the youngest person to row solo across the Atlantic Ocean. No stranger to



overcoming challenges, Spotz has run across deserts, cycled across America, and is the first person to swim the 325-mile Allegheny

River. As part of her seaward challenge, Spotz partnered with the Blue Planet Network to help people around the world gain access to safe drinking water for life. To date, she has raised more than \$100,000 for safe drinking water projects. She will share stories from her adventures on the high seas, as well as discuss her philanthropic efforts.

For the full Explorer Series schedule, visit www.cmnh.org.

Tickets: Member adults \$8; member students and seniors \$7; nonmember adults \$10; nonmember students and seniors \$9. For tickets, call (216) 231-1177, ext. 3279 or visit www.cmnh.org.



The Explorer Series is generously supported by the Museum's Women's Committee. This season's promotional sponsors are *Cleveland Magazine*, Cuyahoga County Public Library and WVIZ/WCPN ideastream.

BE REMEMBERED

If you have been considering a special gift to the Museum, a Charitable Gift Annuity (CGA) or a Deferred CGA might be right for you. The American Council on Gift Annuities recently announced new gift annuity rates around .1 percent to .2 percent higher for donors in the prime gift annuity ages 65 to 80. For example, if you are age 78 and your spouse is age 72 and you create a \$10,000 CGA, your payment rate will be 5.7 percent; you will be eligible for a charitable deduction of \$3,129; you will receive an annual payment of \$570; and a portion of that income will be tax free for more than 16 years. These calculations will vary based on a Single or Two-life CGA or Deferred CGA, donor ages, gift amount and gift date. For more information, contact Sheryl Hoffman, Director of Major and Planned Gifts, at (216) 231-4600, ext. 3310 or shoffman@cmnh.org.

Check your own calculations by using the new GiftGuide tool at www.cmnh.org/site/GiftGuide.aspx

Lectures

Frontiers of Astronomy

This free lecture series offers those with an interest in astronomy the chance to learn about the latest research in the field. Lectures are held in Murch Auditorium. No tickets or reservations are required. On clear nights, the Ralph Mueller Observatory will be open afterward.

Searching for Other Earths: Results from the Kepler Mission

Dr. William D. Cochran, University of Texas at Austin

Thursday, October 14, 8 pm

Launched in March 2009, the Kepler spacecraft is designed to survey our region of the Milky Way galaxy to discover Earth-size and smaller planets in the habitable zone and to determine how many stars in our galaxy might have such planets. Dr. William Cochran will discuss results from the new planetary systems discovered by Kepler and prospects for the future.

Frontiers of Astronomy is sponsored by the Department of Astronomy at Case Western Reserve University through the support of the Arthur S. Holden, Sr. Endowment; The Cleveland Museum of Natural History; and The Cleveland Astronomical Society.

Mark your calendar for future *Frontiers of Astronomy* lectures: November 18, December 9, March 10, April 14

Kirtlandia Society Programs

Saturdays, 9:30 am coffee and conversation; 10 am program
Rare Book Room — Free and open to the public

September 11 – Bob Bartolotta, Seismic Observatory Manager
The Fantastic Seismology Program at the Museum

Cleveland Archaeological Society Lecture Series

The Cleveland Archaeological Society, a local society of the Archaeological Institute of America, holds its annual lecture series in the Museum's Murch Auditorium. Each lecture is followed by a reception. **Free and open to the public.**

Aila: A Roman Port on the Red Sea

Dr. S. Thomas Parker, North Carolina State University at Raleigh
Wednesday, September 15, 7:30 pm

Ancient sources mention a city called Aila that was one of the great international ports of the Roman empire. Although sources located Aila near the northern tip of the Gulf of Aqaba on the Red Sea, its exact location remained a mystery. A 1994 archaeological project directed Dr. S. Thomas Parker rediscovered ancient Aila, now within the modern city of Aqaba in southern Jordan. Parker will discuss his research, which aims to reconstruct the economy of Aila.

Rediscovering Ohio's Small Earthwork Sites Using Geophysical Survey and LiDAR Mapping: The Wow! Factor

Dr. Jarrod Burks, Ohio Valley Archaeology, Inc.

Wednesday, October 13, 7:30 pm

Ohio is home to hundreds of earthwork sites, including some small—yet complex—sites. What has come of these small sites? What might we learn from them? Dr. Jarrod Burks will discuss results from his laser-based mapping of the ground's surface and geophysical surveys from sites in southern Ohio.

October 9 – Dr. Christopher Bonar, Dallas World Aquarium
Prospects for a New, Nonprofit Public Aquarium for Northeast Ohio

Museum Events

Urban Ecology: Nature in the City

The Seventh-Annual Conservation Symposium
Thursday through Saturday,
September 9 to 11, 2010

This year's symposium series includes a mix of workshops, field trips and a screening of the movie *Tapped* on Thursday, September 9; a full day of presentations and evening lecture on Friday, September 10 (see below); field trips and the Great Lake Erie Boat Float. Registration is \$15 per person and includes one field trip. Visit www.cmnh.org for details.

Register online or call (216) 231-1177 or 800-317-9155, ext. 3279. After September 3, registration will increase to \$20.

Plastic Pollution of the Marine Environment

Friday, September 10, 7 pm

Captain Charles Moore, founder and research coordinator of the Algalita Marine Research Foundation

Cost: Conservation Symposium and Boat Float registrants \$5; Museum members \$8; nonmembers \$10. Register online or call (216) 231-1177.

Second Annual Great Lake Erie Boat Float

Saturday, September 11, 9 am
Lower Edgewater State Park Beach

Help raise awareness about the negative impact plastics have on our environment. Build your own plastic boat and launch it on the lake! Boats must be constructed from post-consumer recyclable materials. Trophies will be awarded. Polyflow, an Akron-based company, will process the winning boat in the category of "Best Use of Recyclable Materials" using technology that offers solutions for responsible recycling of plastics. **Registration deadline is September 3. For more information or to register, visit www.lakeerieboatfloat.org or contact Cathi Lehn at clehn@cmnh.org.**

Wild & Scenic Environmental Film Festival on Tour

Saturday, September 11, 6 pm
enviro-fair; 7 pm films; 10 pm Q&A
Be inspired and motivated at this annual film fest. First, meet representatives from local environmental groups and enjoy light refreshments and a \$3 beer and cash wine bar. Then view a variety of environmentally themed films ranging in length from 2 to 64 minutes. Using humor and heart, the films demonstrate how ordinary human beings who care about the environment can make extraordinary differences in the world, sometimes by doing the simplest things. Following the films, David Beach, director of the Museum's GreenCityBlueLake Institute, will lead a question-and-answer session. **Tickets: \$10 Museum members; \$15 nonmembers; \$5 high school students**



Natural Areas Wine Tours: Wine tastings with a wild side

Co-sponsored by Ohio Wine Producers Association

Don't miss out on the chance to tour Museum natural areas and taste the vintages produced by Northern Ohio wineries. These unique trips are led by Museum naturalists and are limited to 30 participants. Natural areas tours start at 10 am and end around noon. Afterward, participants will travel to the designated winery for a light lunch and wine tasting. **Each trip is \$35 per person.**
September 18 – Groves Woods/LaLeure Winery (Parkman, OH)
October 2 – Cathedral Woods/Buccia Vineyards (North Kingsville, OH)

Archaeology Day, Earth Science Day and Astronomy Day!

Saturday, October 16, 10 am to 4 pm

Join us for a day of discovery as part of Ohio Archaeology Month, national Earth Science Week and Astronomy Day. Come learn about the fascinating worlds of these sciences and related careers. Meet Museum curators and staff; members of Museum-associated societies such as the Cleveland Geological Society and the Micromineral Society; as well as representatives from the Cleveland Archaeological Society, local universities and astronomy clubs. See how tools are chipped from stone, and try primitive technologies such as atlatl throwing, cordage making and pump drilling. Bring in up to six of your artifacts, fossils, minerals, and rocks for identification. Check out exhibits of archaeological and geological specimens. Explore the wonders of the sky. See a live show in the Nathan and Fanny Shafran Planetarium and take a tour of the Ralph Mueller Observatory. Participate in family friendly, hands-on activities in the Smead Discovery Center. Dig through the Museum Store for related books, educational toys, games, clothing and other finds. There will be something for the whole family! **Free with Museum admission.** In addition, Friday evening's *Explorer Series* lecture is being presented in conjunction with Earth Science Week.



Trout Club Clambake

Wednesday, October 20, 6 pm

The Trout Club kicks off its season with this event that includes cocktails, dinner and a presentation by author John Ross. He will discuss his books, *Trout Unlimited's Guide to America's 100 Best Trout Streams* and *Rivers of Restoration*. **Tickets: \$50.** Register at www.cmnh.org or contact Karen Menn at kmenn@cmnh.org or (216) 231-4600, ext. 3278.



Owls and Howls Kids' Halloween Party

Saturday, October 23, 11 am to 4 pm
(See page 16)

Bones, Bugs and Dead Animals

The Nature League's 14th Annual Halloween Party
Saturday, October 30, 8 pm to midnight

Get creative and join The Nature League for one of the best costume contests in Cleveland! This bash features live music from "Abby Normal," delicious food and dessert buffets, and a \$3 bar. Admission includes one free drink ticket. Prizes will be awarded to the best costumes in the categories of Best of Show, Best Ensemble, Scariest and People's Choice. **Tickets: \$25 Nature League members; \$30 nonmembers; \$35 at the door. 21 and over only.**

Save the Dates!

The Natural History of Food Series

November 6, February 12, April 16 and June 25

Watch for more details in the next issue of *Tracks*.

Bed Bug Symposium

Cuyahoga County Board of Health, City of Cleveland Department of Public Health

Thursday, November 4, 9 am to 1 pm, Murch Auditorium

Free and open to the public

The Museum Store's Second Annual Holiday Shopping Preview Brunch

Saturday, November 13, 8 to 10 am

Museum Programs

In the Shafran Planetarium

An out-of-this-world experience featuring the latest in technology!

Be amazed at our live sky shows in the new and improved Nathan and Fanny Planetarium. Experience our new, state-of-the-art digital projection system. Offering enhanced special effects, full-dome coverage and high-definition imagery, the technology allows Museum astronomers to present more detailed sky shows that take visitors on virtual trips throughout the Universe and beyond.

Please arrive 20 minutes before show time to claim your tickets with your confirmation number. Unclaimed tickets will be released for purchase on a first-come, first-served basis 10 minutes before show time. **Tickets: Members: Free; nonmembers: \$4 per person with Museum admission. Please reserve in advance.**

And Then There Were Eight
Monday through Friday, 2:30 pm;
Wednesday, 8 pm; Saturday, 10:30 am*;
12:30, 2 and 4 pm; Sunday
12:30, 2 and 4 pm

It caused quite a stir when astronomers dropped Pluto as an official planet. Why was Pluto fired, and do you agree with the decision? We'll let you know why we think it was the right choice.
*On **September 4** and **October 2** "Star Babies" will be offered at this time instead. Star Babies gives children 2 and younger a gentle, 15-minute introduction to the planetarium and the wonders of the night sky.

Children's Program: Icy Space Balls

Saturday, 11:30 am and 3 pm;
Sunday, 1:15 and 3 pm

Pluto and several other distant companions are now called "dwarf planets." More than 1,000 other smaller iceballs have been discovered orbiting far from the Sun. What are they like and where did they come from?

In the Mueller Observatory

View the night skies through our vintage, 10 ½-inch Warner & Swasey telescope. Wednesday evenings, weather permitting, September through the end of May, 8:30 to 11 pm (arrive before 10 pm; dress for the weather). We'll search out the farthest planets, at least in our solar system—ghostly green Uranus and pale blue Neptune.

Smead Discovery Center

Monday through Saturday, 10 am to 4:30 pm; Wednesday, 10 am to 8 pm; Sunday, 1 to 4:30 pm. Free with Museum admission.

Visit the Smead Discovery Center for hands-on fun on the Museum's Lower Level. Visitors of all ages are welcome in this multigenerational space. We have concrete activities for tots and "brain buster" puzzles for teens and adults. Play a birdsong piano, touch real fossils, dig for a dinosaur, use a microscope and more!

Toad Tunes and Raccoon Rhapsodies:

Wednesday, September 22
3:30 to 5 pm

Discovery Center Coordinator Beth Gatchell will read stories and play nature songs. This program is designed so you can drop in at any time during the listed hours and see and hear something interesting. Bring your voice, your dancing feet, or just your listening ears and get ready for a good time! All ages welcome.

Archaeology Day, Earth Science Day and Astronomy Day in the Smead Discovery Center

Saturday, October 16, 10 am to 4 pm
Dig into a stellar, down-to-earth triad of natural history topics today: archaeology, geology and astronomy. What does an archaeologist, an astronomer or a geologist do? What clues help them understand the past and the present? How is an archaeologist different from a paleontologist? Our family friendly

activities will help you understand the science (and the fun) of archaeology, geology and astronomy.

Live Animal Programs

Staff and volunteers will introduce visitors to Northeast Ohio's wild creatures using live ambassadors from the Museum's Wildlife Resource Center. Saturday and Sunday, 1 pm in the Museum lobby and 3 pm in the Ralph Perkins II Wildlife Center & Woods Garden. **Free with Museum admission.**



September and October: Creepy Creatures and Critters People Love to Hate

Many are the creatures that people find creepy—denizens of dark or underground places, critters that slither, slime, stink or spray, or those animals with more than four legs. These animals may seem scary to us because they inhabit worlds we don't understand, and we don't see how they function. Join us in an exploration of some of the creepy creatures of Ohio and beyond and discover their true nature.

Carol H. Sweet Nature Center at Mentor Marsh

Mentor Marsh is an interpretive nature preserve of the Museum and the Ohio Division of Natural Areas and Preserves. It is located at 5185 Corduroy Road, Mentor. Trails are open daily, year-round, dawn to dusk. The Nature Center is open to the public Saturdays and Sundays noon to 5 pm through October. **Guided, exploratory family nature hikes are offered every Sunday from 2 to 3:30 pm.** There is no charge, and all are welcome. Programs will be held in all but severe weather; so please come prepared for the conditions. All programs meet at the Nature Center unless otherwise stated. Bring your own field guides and binoculars if you have them or we will have some to lend. Reservations requested for all programs. To register or for more information, contact the Nature Center at: (440) 257-0777, by mail at 5185 Corduroy Rd., Mentor, OH 44060, or e-mail rdonalds@cmnh.org.

Sundays in September:

September 5: Catch the Monarch Madness!

Learn about these colorful butterflies, their interesting life cycle and migration, and how we can help them in their journey. We'll learn about Monarch Watch and its tagging program and hope to tag some on our walk.

September 12: Naturalist's Choice

Join our naturalist on a hike and learn what's going on seasonally around the Marsh.

September 19: Wetlands Exploration

Join us in some scooping in our wetlands to discover life in our wetlands this time of year. Dip for aquatic insects and learn how they can predict water quality. We'll be at the water's edge, but wear clothing and footwear appropriate for muddy conditions.

September 26: Lagoons Discovery Hike

Meet us at the Mentor Lagoons City Nature Preserve trailhead (8365 Harbor Dr.) for a walk at the western edge of the Marsh.

Special Stewardship Program: Marsh Marauding!

Saturday, September 25, 8 to 11 am

Help us prowl the Marsh in search of litter and trash as part of Ohio Coastweeks Clean-up. Our local efforts are magnified across the world as we join thousands of volunteers to celebrate the 25th year of the International Coastal Cleanup. Bring your own gloves and wear suitable clothes and footwear for off-trail and possibly muddy conditions. Bags and snacks provided.

Registration required.



Sundays in October:

October 3: Buckeye Trail Work Day

Enjoy the beauty of the upland woods along the Buckeye Trail as we work on fixing problem areas along our part of the Trail. Tools provided; wear sturdy footwear and bring work gloves. Co-sponsored by the Buckeye Trail Association. Registration required.

October 10: Fall Birding in the Marsh

Bring your sense of wonder and join us in spotting fall migrants in restored areas in Mentor Marsh. Bring your own field guides/binoculars or we'll have some to lend. Beginning birders welcome!

October 17: The Beauty and Importance of Pollinators

Join Museum Naturalist Judy Semroc for a colorful program on the importance and beauty of pollinators. Close-up views will show why a variety of flowers are required by various pollinators, including butterflies, birds, native bees, beetles and flies. Learn about plants and ideas to attract these beautiful creatures to your garden.

October 24: Naturalist's Choice

Join our naturalist on a hike and learn what's going on seasonally around the Marsh.

October 31: Happy Halloween!

Let's get out and explore—turn over rocks and logs in the upland forest around the Marsh and see what kind of underworld life haunts these subterranean homes. Beware! Slithery creatures and ones with more than four legs are anticipated. Bring your sense of adventure!

Burroughs Nature Club Fall Hike

Saturdays, October 2 and 30, 10 to 11:30 am

Join us in reinstating this fall hike at Mentor Marsh while learning about the Marsh and the nature club. **Register at (440) 257-0777 or rdonalds@cmnh.org.** The Burroughs Nature Club was instrumental in preserving Mentor Marsh. It was founded in 1916 by a group of Clevelanders who shared a love of hiking, wildlife and investigating the natural world. Their meetings are held in Willoughby the second Friday evenings of the month, September through April. For more information on membership, meetings and guest speakers, visit www.burroughsnatureclub.org.

BE OUTSIDE

September

2010

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Exhibits & Shows

Fawick Gallery – *The Genographic Project: A Landmark Study of the Human Journey*, through September 12
Fawick Gallery – *Disease Detectives*, October 9 through January 23, 2011
Lower Level Gallery – *Fieldwork: The Rare and the Wonderful at Singer Lake Bog*

For Visitor Information

Call (216) 231-4600 or 800-317-9155 or visit www.cmnh.org

Mentor Marsh Program, Catch the Monarch Madness!, 2 pm

Labor Day, Museum closed

Guild of Nature Artists, 7 pm

Target Free First Thursday, 10 am

Adult Field Trip, A Tour of the Grand, 8 am

Adult Field Trip, Hike the Red River Gorge, 11 am (thru 9/6); **Adult Field Trip**, Downtown Cleveland Rocks, 10 am; **Adult Field Trip**, Garden Tour and Native Plants Workshop in Twinsburg, noon

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Adult Field Trip, Fall Migration, 9 am; **Mentor Marsh Program**, Naturalist's Choice, 2 pm

Labor Day, Museum closed

Cleveland Archaeological Society, Aila: A Roman Port on the Red Sea, 7:30 pm

Conservation Symposium, workshops, 9 am, field trips, 1 pm; *Tapped* movie showing, Capitol Theater, 7 pm

Conservation Symposium, 9 am; Plastic Pollution of the Marine Environment, 7 pm

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Conservation Symposium; Great Lake Erie Boat Float, Edgewater Park Beach, 9 am; **Adult Field Trip**, The Cultural

Geology of University Circle, 9 am; **Kirtlandia Society**, The Fantastic Seismology Program at CMNH, 10 am; **Adult Field Trip**, Whipps Ledges Climbing Adventure, noon; **Adult Field Trip**, The Singing and Dancing Insects of the Terraces, 4 pm; **Wild & Scenic Film Festival On Tour**, 6 pm

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Adult Field Trip, Aquatic Invertebrates and Captivating Caterpillars, 10 am; **Adult Field Trip**, Lake View Cemetery Geology Walking Tour North, 2 pm; **Mentor Marsh Program**, Wetlands Exploration, 2 pm

Adult Field Trip, Urban Botany Trek: The Flats/Tremont, 9 am; **Smead Discovery Center**, Toad Tunes and Raccoon Rhapsodies, 3:30 pm; **Guild of Nature Artists**, 7 pm

Parent and Preschoolers, A Troop of Monkeys, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Adult Field Trip**, Equinox Weekend Adventure, 4 pm

Parent and Preschoolers, A Troop of Monkeys, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Super Science Saturdays**, Natural Disasters, 10 am; **Micromineral Society**, 1 pm; **Adult Field Trip**, Urban Botany Trek: The Flats/Tremont, 4 pm; **Adult Field Trip**, Kent Bog Singing Insects, 4 pm

Parent and Preschoolers, A Troop of Monkeys, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Super Science Saturdays**, Natural Disasters, 10 am; **Micromineral Society**, 1 pm; **Adult Field Trip**, Urban Botany Trek: The Flats/Tremont, 4 pm; **Adult Field Trip**, Kent Bog Singing Insects, 4 pm

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Mentor Marsh Program, Lagoons Discovery Hike, 2 pm



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October

2010

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Museum Hours

Monday through Saturday, 10 am to 5 pm; Wednesday, 10 am to 10 pm (Observatory open 8:30 to 11 pm through May, weather permitting); Sunday, noon to 5 pm

Harold Terry Clark Library

Tuesday through Friday, 10 am to 2:30 pm

Museum Store Hours

Monday through Saturday, 10 am to 5 pm; Wednesday, 10 am to 8:30 pm; Sunday, noon to 5 pm

For Visitor Information

Call (216) 231-4600 or 800-317-9155 or visit www.cmnh.org

Mentor Marsh Program, Buckeye Trail Work Day, 2 pm

Coffee with a Curator, 10:30 am; **READ! SOAR! EXPLORE!**, King of the Jungle, 4 pm; **Back to Basics**, Introduction to Ohio Archaeology, 7 pm

Target Free First Thursday, 10 am

Adult Field Trip, Lakefront Birdwatching West, 8 am; **Explorer Series**, *Einstein's Telescope*, Dr. Evalyn Gates, 7:30 pm

Natural Areas Wine Tour, Cathedral Woods and Buccia Vineyards, 10 am; **Adult Field Trip**, Fall Excursion at Grimm Fenn, 10 am; **Mentor Marsh Program**, Burroughs Nature Club Fall Hike, 10 am

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Mentor Marsh Program, Fall Birding in the Marsh, 2 pm

Coffee with a Curator, 10:30 am; **READ! SOAR! EXPLORE!**, Zoology, Poetry and Putt-Putt, 4 pm; **Back to Basics**, Introduction to Ohio Archaeology, 7 pm; **Cleveland Archaeological Society**, Rediscovering Ohio's Small Earthworks Sites using Geophysical Survey and LiDAR Mapping, 7:30 pm

Frontiers of Astronomy, Searching for Other Earths: Results from the Kepler Mission, 8 pm

Explorer Series, *The Detective Work of Seismologists*, Dr. Brian Stump, 7:30 pm

Family Program, Earth Science, Archaeology and Astronomy Day, 10 am; **Smead Discovery Center**, Earth Science, Archaeology and Astronomy Day, 10 am; **Adult Field Trip**, Fish Seining and Mussel Search, 10 am

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Mentor Marsh Program, The Beauty and Importance of Pollinators, 2 pm



Coffee with a Curator, 10:30 am; **READ! SOAR! EXPLORE!**, Makin' Tracks, 4 pm; **Trout Club Clambake**, 6 pm

Parent and Preschoolers, A Web of Spiders, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Adult Field Trip**, Owl Banding on Kelleys, 4 pm

Parent and Preschoolers, A Web of Spiders, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Super Science Saturdays**, Archaeology, 10 am; **Youth Program**, Science Illustration, 10 am; **Owls and Howls Kids' Halloween Party**, 11 am; **Micromineral Society**, 1 pm

Parent and Preschoolers, A Web of Spiders, Tiny Trekkers, 9:30 am; Young Explorers, 11 am; **Super Science Saturdays**, Archaeology, 10 am; **Youth Program**, Science Illustration, 10 am; **Owls and Howls Kids' Halloween Party**, 11 am; **Micromineral Society**, 1 pm

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Mentor Marsh Program, Naturalist's Choice, 2 pm

Coffee with a Curator, 10:30 am; **READ! SOAR! EXPLORE!**, Extreme Mammals, 4 pm; **Guild of Nature Artists**, 7 pm

Explorer Series, *Rowing the Atlantic*, Katie Spatz, 7:30 pm

Explorer Series, *Rowing the Atlantic*, Katie Spatz, 7:30 pm

Mentor Marsh Program, Burroughs Nature Club Fall Hike, 10 am; **Nature League Halloween Party**, Bones, Bugs and Dead Animals, 8 pm

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Mentor Marsh Program, Happy Halloween!, 2 pm

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Tracks

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Just for kids



Read! Soar! Explore

Welcome to the Jungle

Wednesday evenings in October;
4 to 7 pm

This family friendly program makes reading fun through crafts, games and experiments. Programs are held in the Museum Store. Drop in anytime between 4 and 7 pm. **Free with Museum admission.**

King of the Jungle

October 6

Zoology Poetry and Putt-Putt

October 13

Makin' Tracks

October 20

Extreme Mammals

October 27

Owls and Howls Kids' Halloween Party

Saturday, October 23, 11 am to 4 pm

Treat yourself to a family friendly event celebrating animal enrichment combined with a special Halloween party at the Museum. Come in costume, bring a pumpkin, help make treats for the animals in the Perkins Wildlife Center and see what tricks they can play! Learn about the serious business of animal enrichment and then have fun enriching. Enjoy games, crafts, special demonstrations and shows—all in a not-so-spooky setting. Hoot like an owl, howl like a wolf, and hoof it down to the Museum for an early Halloween treat! **Free with Museum admission. Children age 12 and under in costume will be admitted free.**

Fall for our classes and programs

Keep your family active and involved this fall. Look into the array of programs offered by the Museum. Join us for exciting hikes, family friendly special events, classes and more. Visit www.cmnh.org and check out the event calendar; or pick up a copy of the Classes and Field Trips brochure.