



Smithsonian Institution

OUR SHARED FUTURE: COLLECTIONS HIGHLIGHTS APRIL 2022

The following stories highlight recent additions to the Smithsonian collections that have helped to shape and champion our strategic pan-Institutional initiatives including **Life on a Sustainable Planet** and **Solving the Mysteries of the Universe**. These highlights also show the collaborative nature of the Institution's research collections, not only across Smithsonian units but in connection with leading research, art, and cultural organizations as well as government partners.

WOOD-BORING BEETLE COLLECTION: NOT SO BORING AFTER ALL



Image: At the Systematic Entomology Laboratory, located at the Smithsonian's National Museum of Natural History, ARS research associate, Kojun Kanda (Lt) and ARS research entomologist, Lourdes Chamorro inspect and catalog the newly acquired — world's largest — *Agrilus* beetle collection. Photo by Matt Buffington, USDA-ARS.

Researchers within the Agricultural Research Service's ("ARS") [Systematic Entomology Laboratory](#) ("SEL") are currently preparing for more intense study of beetles in the genus *Agrilus*, thanks to their recent acquisition of the Eduard Jendek Collection. The collection was developed over the last 30-40 years in Slovakia by world *Agrilus* expert Eduard Jendek. It boasts over 25,000 specimens, making it one of the largest private collections of metallic wood-boring beetles in the world, and a major step forward for the Nation's preventative efforts to address agricultural challenges.

Several agencies within the U.S. Department of Agriculture ("USDA") (Agriculture Research Service, the U.S. Forest Service, and the Animal and Plant Health Inspection Service)

partnered with the Smithsonian to acquire the collection because of the importance of the beetles to forest health, including current and potential invasive species. The collection is housed at the **National Museum of Natural History** ("NMNH") and cooperatively curated by USDA and Smithsonian staff.

Before his retirement, Jendek undertook hundreds of expeditions in highly remote and difficult to access areas—or areas that have since been deforested or are no longer accessible. The collection is the most complete private collection of the genus *Agrilus* ever assembled and represents half of the known valid species in the genus, contains more than 95 percent of the known species diversity in Russia and China, and holds more than 80 percent of the known diversity of species in South and Southeast Asia.

"The result of Jendek's efforts is manifested now in a collection that includes thousands of authoritatively identified specimens, many reared from recorded host plants and rare species known only from the single type specimen," said ARS Research Entomologist Lourdes Chamorro. "The collection is also especially unique in that it is databased and includes specimens from new, unpublished distribution records."

Members of the genus *Agrilus* are often considered potentially invasive and therefore, destructive towards agriculture, forestry, and other natural resources. The beetle poses a threat to ash trees in the eastern United States, and in two recent instances, the collection and Eduard Jendek have been the only ones to confirm the identity of these new pests. SEL researchers will use the collection to prepare and prevent future economic damage as they study the species and make predictions about the next serious pest that shares the same genes.

NEW CHSDM ACQUISITIONS RESPOND TO CURRENT ISSUES

Cooper Hewitt, Smithsonian Design Museum (“CHSDM”) has announced the addition of several important works to the permanent collection. The museum holds one of the world’s most diverse design collections—over 215,000 objects that span 30 centuries. Among the current collecting priorities are to add born-digital and sustainability-minded works; bolster the diversity of designers represented; and acquire major historical pieces.

In addition to furniture, metalwork, glass, ceramics, jewelry, woodwork, born-digital work, textiles, and wallcoverings, CHSDM has one of the most significant collections of drawings and prints in the United States. Since its founding, the mission of the collection has been to highlight history, innovation, process, technique, use, aesthetics, and social context.

The new works were acquired through the Responsive Collecting Initiative, which was launched in September 2020 as a collaborative mechanism for the museum to work with staff across departments to solicit, review, and ultimately add objects to the permanent collection that tell design stories about the current moment, including the COVID-19 pandemic, the movements for racial and social justice, the 2020 election and the climate crisis.

Among the items is a major collection of 61 architectural illustrations of the World Trade Center by Carlos Diniz donated by Mark Cuban on the 20th anniversary of September 11. One of the foremost architectural delineators of the 20th century, Diniz served as the project recording artist for the World Trade Center commission, hired by Minoru Yamasaki. He was tasked with doing sketches that would help situate the buildings in Lower Manhattan and highlight the project at scale with its surroundings. Diniz’s illustrations, dating from the 1960s, showcase the World Trade Center as an idealistic place where people of all ethnicities and walks of life come together. In the early years of the project, Diniz’s line sketches were shown to Port Authority developers. He then developed large-format line drawings that showcased how the World Trade Center’s major public spaces would be developed.

After the artist's family offered the World Trade Center drawings for sale, the entrepreneur and Dallas Mavericks owner Mark Cuban gifted them to the Smithsonian. "It strikes an emotional chord with every American," Cuban said. "I wanted the actual drawings to be where any American can see them, and the Smithsonian was the right home."



Drawing, View of Towers from Ground Level, World Trade Center, 1962–1968; Illustrated by Carlos Diniz (American, 1928-2001) for Minoru Yamasaki & Associates (Troy, Michigan) and The Port Authority of New York and New Jersey (New York, New York); Gift of Mark Cuban, 2021-23-15; Cooper Hewitt, Smithsonian Design Museum; Photo: Matt Flynn © Smithsonian Institution

NEW ENVIRONMENTAL JUSTICE GUIDE FOR YOUTH



The **Smithsonian Science Education Center** (“SSEC”), in collaboration with the InterAcademy Partnership, has developed Environmental Justice! How can we create environments that are healthy for everyone?, a new community research guide for youth ages 11–17. Based on the UN Sustainable Development Goals, it aims to help young people assess and take action to create sustainable, healthy, and just environments.

In this guide, young people explore the question “How can we create environments that are healthy for everyone?” Students research historical approaches to environmental justice, learn about a specific environmental issue in their area and its causes, examine how different environments can affect the health of a community, discover the themes of injustice, and plan innovative solutions to environmental problems.

The guide includes new research, activities, and perspectives from subject-matter experts. It also integrates inquiry-based science education with social and emotional learning and civic engagement. By examining their own perspectives and the perspectives of subject-matter experts featured in Environmental Justice!, students generate customized solutions for the conflicts in their community and contribute to a more equitable and sustainable planet.

“I want to thank the dozens of experts from across the Smithsonian and the globe who served as advisors and helped to shape this guide,” said Carol O’Donnell, director of the Smithsonian Science Education Center. “This community research guide encourages young people to discover, understand and act on sustainable approaches to complex socio-scientific questions and create change within their own communities. It is an important step forward in the Smithsonian Science Education Center’s effort to create and promote a transdisciplinary approach to STEM Education for Sustainable Development, in line with the Smithsonian Institution’s mission to promote life on a sustainable planet.”

The Smithsonian Science Education Center will disseminate the information to youth worldwide in collaboration with the InterAcademy Partnership. [The guide is free.](#)

CORAL REEF COMES TO LIFE IN AUGMENTED REALITY EXPERIENCE

The Smithsonian, [The Hydrous](#), and Adobe teamed up to build an educational, interactive Augmented Reality (“AR”) experience, exploring the ocean’s coral reefs, and the threats that they face. This immersive, free educational experience is available via the [Adobe Aero app](#).

This collaboration was started to create an interactive, immersive experience that raises awareness about the threats facing ocean ecosystems like coral reefs. It also underscores the complexity and importance of marine habitats to the health of our planet and ourselves—a beautiful story of how we are all connected. This initiative is part of a program, led by the Hydrous, called The Decade of Ocean Empathy. It has been endorsed under the UN Decade of Ocean Science for Sustainable Development.

This project blossomed from a 2018 collaboration between the Smithsonian’s **Digitization Program Office**, the **National Museum of Natural History** (“NMNH”), and The Hydrous to digitize and create rich educational experiences for 90 coral type specimens. What is a type specimen? In taxonomy, the type specimen serves as the scientific name-bearing representative for any animal or plant species. That means these specimens are ideal representations of their species and are invaluable to research.

All of the 3D models from this collaboration are downloadable and usable for any purpose thanks to **Smithsonian Open Access**. Download the models yourself at [3D.si.edu/corals](https://3d.si.edu/corals). To view in mobile AR you will need the Adobe Aero app downloaded on your iOS mobile device, or the Aero Player, which is now available in beta for some Android devices. The experience may take a few seconds to load.



NATIONAL FOSSIL COLLECTION COMPLETES ITS MOVE TO NMNH

Under the grass, gravel, soil, and sand lies layers of rock containing a record of past life. In North America, paleontologists have been studying this record for over 150 years. Many of the fossils they unearthed were stored in the [United States Geological Survey's \("USGS"\) Denver Fossil Collection](#).

"The collection holds specimens that were used to build our understanding of North American geology," said Kathy Hollis, the collections manager for the [National Fossil Collection](#) at the **National Museum of Natural History** (NMNH").

The last of the USGS collection's 1.2 million fossils arrived at the museum, completing an acquisition that began back in 2018 but had been delayed due to the COVID-19 pandemic. But the acquisition was only one step in a bigger plan to systematize and digitize the USGS fossils for scientists everywhere to access for research. "We now have the capacity, the technology, and the big picture vision of how to get this collection organized. What might have been aspirational ten years ago, we're actually doing now," said Hollis.

Some of the fossils are large, like dinosaur bones and mammal skeletons. Others are smaller in stature but just as scientifically valuable, like ammonites—a taxonomic class of ancient marine mollusks that help paleontologists date layers in the fossil record. "Rock layers, and therefore, the fossil record is patchy," said Hollis. "Ammonites can help us connect those patchy records to each other so we can understand how ancient landscapes and oceans have changed over millennia."

Since the 1800s, scientists have been adding ammonites to the USGS collection and using these fossils as geologic markers to improve their chronological understanding of past life. After it's processed, the USGS collection will remain in the museum's National Fossil Collection with around 40 million other fossils. The collection's rehoming represents a longstanding relationship between the museum and the USGS that started back in the late 1800s. "We've always had some of the USGS collection," said Little. "Now, the vast majority of it will be at the Smithsonian including all of those valuable archival resources."

Soon researchers will be able to access the digitized specimens and all their accompanying materials to learn more about North America's prehistoric biodiversity and geography.



Ammonites are a family of prehistoric marine mollusks that lived from roughly 400 million years ago to 66 million years ago. They're known for their tightly spiraled shells. Smithsonian Institution, [USNM PAL 376968](#)