



33rd Annual Research Colloquium World Discoveries



Doug Currie, Senior Curator, Department of Natural History, ROM. Photo: P.H. Adler.

Friday, February 3, 2012 | Signy & Cléopée Eaton Theatre
Presentations 9:30am – 5:00pm
Vaughan Lecture 6:00-7:00pm

Sponsored by:



2012 ROM Research COLLOQUIUM

WORLD DISCOVERIES

Friday, February 3, 2012
Signy & Cléopée Eaton Theatre

PROGRAM

9:30-9:45am

Welcome

Dr. Mark Engstrom, Deputy Director – Collections & Research, ROM

9:45-10:00am

Saving the Kiwi: ROM's contribution to preserving threatened and endangered species

Oliver Haddrath, Technician, Department of Natural History, ROM
Oliver Haddrath, Maryann Burbidge & Allan J. Baker

The small flightless kiwis of New Zealand were estimated to have numbered over 12 million before the arrival of humans a thousand years ago. By the 1930's, their numbers had dropped to 5 million and today they number in the tens of thousands. With continually declining numbers, kiwis have become a focus for conservation. The ROM, in collaboration with New Zealand's Department of Conservation, has contributed to this effort by using DNA to identify genetic variation across surviving populations and in the process discovered two new cryptic species. Detailed knowledge of kiwi population structure has enhanced captive breeding programs and helped shape conservation strategies.

10:00-10:15am

From porcupine quills to feathers: Semantic transformations and market circulation of 20th century Cameroonian art

Silvia Forni, Associate Curator, Department of World Cultures, ROM

Porcupine quill gowns are one of the most spectacular types of ceremonial garments used in annual celebrations in a number of kingdoms in the Cameroonian Grassfields. Recently the ROM was able to acquire one of these striking pieces from the successor of Chief Alaakeh, who wore it until his death in 1998. Taking the move from this recent acquisition, this talk reflects upon the social and semantic transformations that enable objects such as this to travel from a dance field to a museum collection and the fascinating stories of the way objects acquire and lose their cultural significance as history unfolds.

10:15-10:30am**The Fishes of the Lost World: A conservation report from the field**

Hernán López-Fernández, Associate Curator, Department of Natural History, ROM

Perched atop ancient rock plateaus overlooking the vast lowland forests of the Amazon, Orinoco and Essequibo basins, the plants and animals of the Guiana Shield have fascinated and puzzled biologists for over a century. Fishes of this “Lost World” however, have remained poorly known and essentially unstudied until very recently. A ROM-led expedition in 2008 revealed an unexpected diversity of fishes in one of the least known Guiana Shield watersheds, the upper Mazaruni River basin. Although relatively species-poor, 26 of the 34 species in the upper Mazaruni proved to be new to Science, and some of the most bizarre fishes in all of South America. In 2011, supported by a Schad Conservation Grant, the Guyana National Museum and the University of Guyana, our team has returned twice to the Mazaruni. Thanks to these expeditions we have now determined that nearly 90% of the upper Mazaruni species occur nowhere else. In this presentation, I will provide an updated view of our growing understanding of the fishes of the upper Mazaruni and highlight ongoing research on the ecology and conservation of these unique fishes of the Lost World.

10:30-11am**Break****11:00-11:15am****2008-2010 ROM-Burgess Shale expeditions - Expanding the search for Burgess Shale-type deposits in the Canadian Rockies.**

Jean-Bernard Caron, Curator, Department of Natural History, ROM

In the summers of 2008 and 2010, I led two ROM exploratory parties to a number of poorly-known Burgess Shale sites in the Canadian Rockies. The main goal was to better understand the stratigraphic (temporal) relationships between different sites in order to reconstruct how paleoenvironmental variations might have influenced the composition of the Burgess Shale community at a regional scale. In this presentation, I will summarize the main findings and present plans for future expeditions.

11:15-11:30am**“That’s Not a Kayak!”: Form, Function, and Cultural Appropriation**

Kenneth Lister, Assistant Curator, Department of World Cultures, ROM

Contemporary kayaks made of fibreglass or those with fabric covers over metal-alloy frames all have an Inuit ancestry. But, if this is true, why did Inuit elder, Andrew Oyukuluk, exclaim, “That’s not a kayak!” when viewing a fibreglass kayak on display at the ROM? For Oyukuluk, the truth of the kayak is in the intertwining elements of land and water, mortal and spirit. His statement—simple, yet profound—draws attention to the inauthentic elements of the contemporary kayak in a non-indigenous system of production and consumption. And, delving deeper into his meaning, the fibreglass kayak on display in the exhibition hall exemplified the appropriation of Inuit identity.

11:30-11:45am**An Embarrassment of Worms: Fossil Priapulida from the Silurian of Ontario ...
Real and Imagined**

David M. Rudkin, Assistant Curator, Department of Natural History, ROM

Modern priapulids comprise a group of about 20 species of non-biomineralizing ecdysozoan marine “penis worms”, most of which live within the upper layers of sea-floor sediment. Distinctive trace fossils attributed to priapulid burrowing activity have been described from sedimentary rocks spanning much of the Phanerozoic Eon, but their body fossil record is extremely poor. Two sites in Ontario that produce exceptional fossils of Silurian age have recently yielded single specimens of putative priapulid worms. One of these is confirmed as a new stem-group species, bridging a nearly 200-million-year gap in the priapulid body fossil record. The other specimen remains indeterminate.

11:45am-12:00pm***There are many angles: on archaeological expeditions in Iraq during the 1930s***

Clemens Reichel, Associate Curator, Department of World Cultures, ROM

The 1930s represent a “Golden Age” of Mesopotamian archaeology during which well-funded, expeditions from Europe and North America excavated large archaeological sites in Iraq. Large collections of systematically excavated finds, now housed in museums in Europe, North America and Iraq, still form the backbone to our understanding of early Mesopotamian history. Using photographs, diaries and letters from the Iraq expedition of the University of Chicago’s Oriental Institute between 1930 and 1937 (currently in process of being published on-line by the Diyala Database Project) this talk will contextualize this project within the political setting of pre-World War II Iraq and evaluate its continued significance for present-day research.

12:00-1:30pm**Lunch Break****1:30-1:45pm****ABOUT FACE: The Conservation of the ROM’s Mummy
Portraits from Roman Egypt**

Heidi Sobol, Senior Conservator, Paintings, Conservation Department, ROM

Mummy portraits, also known as fayum, are images of the deceased incorporated into the top portion of a mummy’s wrappings. The person was depicted in a realistic style, executed with pigmented encaustic or tempera on a thin wood panel. In preparation for reinstallation of the Rome gallery at the ROM, three Romano-Egyptian mummy portraits underwent conservation treatments that focused on cleaning and the amelioration of old repairs: a delicate task considering the fragility of the approximately 1800-year-old artifacts. This presentation will provide a synopsis of the treatments executed in the conservation department, as well as an overview of this fascinating type of portraiture.

1:45-2:00pm**Exploration of the Late Cretaceous Dinosaur Faunas of Northern Sudan, Africa**

David Evans, Associate Curator, Department of Natural History, ROM

David C. Evans (Associate Curator, Palaeobiology, Royal Ontario Museum), J. Müller, R. Bussert, N. M. F. Elmula, N. Klein, K. A. Salih

Most knowledge of Late Mesozoic terrestrial vertebrates comes from fossil deposits in the New World, Europe, and Asia, whereas the record from Africa is extremely poor. Here, I report on the results of a joint paleontological expedition to poorly known Upper Cretaceous sediments of central northern Sudan. The 4-week expedition to the eastern Sahara region resulted in the discovery of numerous new and important fossil sites. We found a wide spectrum of fossil freshwater and terrestrial vertebrates including sharks, bony fishes, amphibians, snakes, turtles, crocodylians, and dinosaurs, including the first associated dinosaur skeleton from the country. Future work has tremendous potential to uncover outstanding skulls and skeletons, and provide invaluable insights into the patterns of vertebrate diversity and biogeography in shortly before the K/T extinction event.

2:00-2:15pm***Shahnama*: The Persian “Book of Kings”**

Karin Ruehrdanz, Curator, Department of World Cultures, ROM

About a thousand years ago the Persian poet Abu'l-Qasim Firdausi wrote the epic story of the kingdom of Iran from the mythical beginnings to the Arab conquest in the 7th century. Over many centuries Firdausi's verses served the ruling elite as a mirror for self-reflection and inspiration. Manuscripts of the heroic epic were often richly illustrated and illuminated.

The show in the Special Exhibition showcase on third floor Crystal gathers *Shahnama* illustrations of the 14th-17th centuries from Iran, Turkey, Mughal India and Central Asia. Apart from the relevant ROM material it presents paintings from McGill University and the Montreal Museum of Fine Arts.

2:15-2:30pm**A new fossil bird from the Late Eocene of Wyoming: what's the flap about?**

Kevin Seymour, Assistant Curator, Department of Natural History, ROM

Kevin L. Seymour¹, Sanja Hinic-Frlog², and David C. Evans¹¹Department of Natural History, ROM; ²Department of Biology, Carleton University, Ottawa, ON

The Late Eocene fossil deposits of the Green River Formation (approximately 50 million-years old), spread across Wyoming, Colorado and Utah, have produced tens of thousands of complete fossil fishes, insects and plants. Fossils of mammals, birds and reptiles are very rare in these deposits, however. We report here on a virtually complete skeleton of a new and as yet unnamed fossil bird from these deposits. Preliminary analyses indicate that this bird is a member of the extinct family Halcyornithidae, related to the living parrots. The ROM's fossil bird exhibits more features similar to modern parrots than other fossil parrot species from this formation.

2:30-2:45pm**Not-So-Ordinary about the Ordinary: New Discoveries in Song Dynasty Paintings**

Wen-chien Cheng, *Louise Hawley Stone Chair of Far Eastern Art*
Department of World Cultures, ROM

Paintings on small album leaves flourished during China's Southern Song dynasty (1127–1279). One of the most popular subjects in this format was the ox (or water buffalo) and its herdsman. The artists depicted a great variety of ox-herding activities, commonly in rustic settings, that were intended to evoke the viewer's nostalgia for the peace and tranquility of rural living. Researchers have pointed out that such images represent the ideal pastoral life that appealed to urbanites and scholar-officials at the time. A pair of "ox and herdsman" paintings by a famous Song court painter, Li Di (12th c.), have long been considered as belonging to this genre. However, my research suggests that this pair of seemingly common ox-herding paintings is not merely about the ordinary rustic life. In this presentation, I will share my discovery of other symbolic meanings behind the images that reinforce specific political messages crucial to the Song imperial household and scholar-officials.

2:45-3:15pm**Coffee Break****3:15-3:30pm****Crossing the Line: Stingray parasite diversity across Wallace's Line in the Indo-West Pacific**

Claire J. Healy, Associate Curator, Department of Natural History, ROM

The Indo-West Pacific is a recognized hot spot for diversity of many marine animals, but has been sparsely sampled for tapeworms that parasitize stingrays and their relatives. To complement data from recent, extensive surveys in Borneo and northern Australia, a collaborative survey of tapeworms from sharks and rays was undertaken in Vietnam. This work resulted in discovery of new species of tapeworms and revealed a clearer picture of their host and geographic distributions across this region. While some tapeworm species appear to be endemic to the South China Sea, others exhibit distributions encompassing waters from Australia to Vietnam.

3:30-3:45pm**Southern Arabian silks for the African market**

Sarah Fee, Associate Curator, Textiles & Costume, Department of World Cultures, ROM

Silver jewellery, carved wooden doors and architectural details are the well-known artistic traditions that bind the various peoples who inhabit the shores of the western Indian Ocean, which stretches from East Africa to western India. To these traditions we must now add textiles. My ongoing research reveals that silk and cotton cloth woven in the port cities of the southern Arabian nation of Oman were exported in staggering numbers throughout the Indian Ocean. Probably inspired by western Indian weavings, these textiles were nevertheless distinctive and highly valued for their striping patterns, creative uses of silk and intricate woven end bands. Recent field research I carried out in Oman, combined with the study of archives and museum specimens, shows how they deeply influenced the artistic and ritual traditions of Africa and probably Southeast Asia as well.

3:45-4:00pm**Mobile Interpretation in Museums**

Ryan Dodge, Technician, Library & Archives, ROM

Museums have a long history with mobile interpretation although, in the last few years this relationship has changed with the proliferation of web-enabled devices and smart-phones. Throughout my studies in the Master's of Museum Studies program at Johns Hopkins University I have focused on mobile interpretation, which began with developing the original concept for the ROM's first iPhone app. I have also been working on a new mobile web project for the ROM's Centennial in 2014 and I will share my research as well as how we can harness this exciting technology to benefit our audiences and connect them to the museum's past while also looking to the future.

4:00-4:15pm***Peking Man* Re-Visited: A Who's Who of Human Evolution**Chen Shen, *Vice-President, Senior Curator, Bishop White Chair of East Asian Archaeology*
Department of World Cultures, ROM

In 1987 the first six Chinese UNESCO World Heritage were named, one was the site of discovery of the Terracotta Army, another is Zhoukoudian where a group of *Homo erectus* fossils (named *Peking Man*) were recovered in 1920s – 1930s. The hominid fossil remains represent more than 40 *Homo erectus* individuals; it is still the largest assemblage of *Homo erectus* hominid from a single location, and a prominent evidence for studying human evolution in East Asia. The excavation, led by Canadian scientist Dr. Davison Black in 1927, yielded abundant stone tools, animal bones, and fire ash. The evidence was read to indicate that the *Peking Man* hominids were hunters able to make and control fire 780,000 years ago during a glacial period. But this hypothesis was challenged and dismissed by some American scientists in the 1980s, who believed that *Peking Man* was actually the prey of carnivores. This presentation is to report on the ROM participation in re-investigation at the Zhoukoudian site since 2009. Our findings illustrate that the *Peking Man* hominids were indeed smart hunters who knew what they were doing, and an important missing link in human evolution, yet there remains a great deal yet to be discovered about these important people!

4:15-4:30pm**Winter in Canada is No Picnic: Alicia Killaly's chromolithographs of a day at Montmorency Falls, 1868**

Arlene Gehmacher, Curator, Department of World Cultures, ROM

This set of six chromolithographs, 1868, constitutes a pictorial narrative of a winter day's outing to Montmorency Falls near Quebec City. The format is unusual in the early history of printmaking in Canada; even more unusual is the fact that the set is by a female artist. Signed "A.K.", we can now identify with certainty that the author is Alicia Killaly.

Based on an advertisement heretofore overlooked, the chromolithographs were at the time of issue touted as being as being a wholly "Canadian" production. I look at the nationalistic aspects of the promotion of "Picnic to Montmorency," considering not only its subject matter, but also humour and gender as lenses through which to consider these images of Canadian winter.

4:30-4:45pm**The Study of Meteorites - Science versus Conservation**

Brendt C. Hyde, Technician, Department of Natural History, ROM

Hyde, Brendt C. (Technician, Mineralogy, ROM), Tait, Kim (Associate Curator, Mineralogy, ROM)

Meteorites are rare, expensive and contain a wealth of information about our solar system. Studying these objects requires consideration of science versus conservation. Meteorites are generally studied using cut sections. The cutting is destructive and only exposes a small area. Medical micro-CT equipment can be used to get a 3D view of a meteorite's interior, which could be done prior to destructive cutting. Using a micro-Raman spectrometer, recently acquired by the mineralogy department at the ROM, can give a view of the minerals present and can be done on large and/or fragile samples. Both methods are non-destructive and very informative.

4:45-5:00pm**Closing Remarks**

Dr. Mark Engstrom, Deputy Director - Collections & Research, ROM

5:00-6:00pm**Break****6:00-7:00pm****VAUGHAN LECTURE****The flies we despise: reflections on the wonderful world of black flies**

Douglas C. Currie, Senior Curator, Department of Natural History

Black flies are notorious for their bloodsucking habits on humans and other warm blooded animals, yet they are as much a part of the natural environment as the flowing waters in which they breed. ROM Senior Curator Doug Currie sheds light on the diversity, ecology, and evolutionary history of these fascinating – though generally despised – creatures. Highlights are presented about current efforts to “DNA barcode” the black flies of North America. Preliminary results are also presented about current research documenting the migration of southern-adapted species into northern Canada, and the possible consequences for arctic birds and mammals.

POSTER PRESENTATION

Sertularella maureenae, a new species of hydroid (Cnidaria: Hydrozoa: Sertulariidae) from the Pacific coast of Canada (Choong, H.)