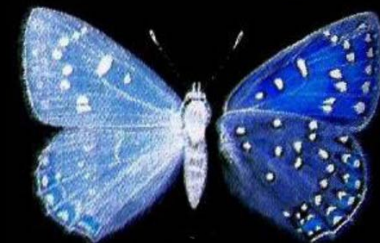


Who cares about Natural History Collections?

Boris Kryštufek
Slovenian Museum Nat. Hist.
Ljubljana, Slovenia





**Provincial Museum of Carniola
1821**

Ansicht des Museums-Saales von Maria Theresia in Laibach.

Ansicht des Museums-Saales in Laibach.

HERBARIUM VIVUM

EXPENSIS

Pontificis, Electoris, ac Archiepiscopi Domini
Joannis Gabrielis Gallesmayeri Illust. et
Arch. Electoris p. n. Magistri Jo.
vitalis et Joh. Maderi etc.

Joanne Baptista Fyffler de Lutemburg, Phil. et Med.
Doctori, cur. cur. Jo. Maderi Illust.
Congestum.

ANNO MDC. XCVI.



Slovenian Museum of Natural History





138✓	<i>Lepus timidus</i> Yellow <small>Lepus timidus</small>
139✓	<i>Lepus timidus</i> Yellow
140	<i>Lepus timidus</i> var. Yellow <small>Lepus timidus</small>
141✓	<i>Lepus timidus</i> Yellow young
142	<i>Lepus variabilis</i> Yellow <small>Lepus variabilis</small>
143✓	<i>Lepus variabilis</i> Yellow
144	<i>Lepus variabilis</i> Yellow



1991





Večer, 11 August 2018

A Museum is

a non-profitmaking, permanent institution in the service of society ... open to public, which **acquires, conserves, researches**, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of people and their environment

ICOM



Sam Noble Museum



Michael Mares (Sam Noble Museum at the University of Oklahoma):

Museums are “... the repository of all life that we know has existed”

ANTROPOCENE



ANTROPOCENE



Biodiversity will be lost in next 50–500 years

ANTROPOCENE



Biodiversity will be lost in 50–500 years

All species could be catalogued in 500–5000
years

ANTROPOCENE

Biodiversity loss

Environmental change



Museum collections: Mining the past to manage the future

Karen R. Lips¹

Department of Biology, University of Maryland, College Park, MD 20742

We are in the midst of the sixth mass extinction (1), and we are watching species disappear faster than we can describe them (2). Three of the major drivers of extinction, emerging infectious diseases (3), invasive species (4), and threats from climate change (5), are especially difficult to address because of their rapid spread, broad geographic effects, and widespread impacts on entire classes (6) or ecosystems (7). We urgently need a better catalog of the abundance and distribution of species on the planet and a broader understanding of biotic (e.g., parasites, diseases, seed dispersal, pollination, predation, and competition)



Fig. 1. An undescribed species of *Diasporus* from El Cope, Panama.

spread of *Bd* in these areas (13, 14).

of *Bd* and determine whether its spread has negatively affected the distribution of amphibian species (19) and if it has caused a corresponding increase in the distribution of *Jliv*. More generally, knowing where *Bd* and *Jliv* occur today, how they interact, and where they occurred in the past will help us understand the spread of both across the landscape and may help us keep *Bd* out of as yet uninfected areas such as Madagascar and Papua New Guinea.

However, despite the promising applications of this (8) tool, we are still limited in quantifying the true effect of *Bd* on amphibian biodiversity, and this hampers effective conservation efforts (Fig. 1). We

MOLECULAR ECOLOGY

Molecular Ecology (2013) 22, 5966–5968

Genomics and museum specimens



Unlocking the vault: next-generation museum population genomics

Climate Change and Biosphere Response: Unlocking the Collections Vault

KENNETH G. JOHNSON, STEPHEN J. BROOKS, PHILLIP B. FENBERG, ADRIAN G. GLOVER, KAREN E. JAMES, ADRIAN M. LISTER, ELLINOR MICHEL, MARK SPENCER, JONATHAN A. TODD, EUGENIA VALSAMI-JONES, JEREMY R. YOUNG, AND JOHN R. STEWART

BioScience 61(2):147-153. 2011

<https://doi.org/10.1525/bio.2011.61.2.10>

Back to the future: museum specimens in population genetics

Peter Wandeler, Paquita E.A. Hoeck and Lukas F. Keller

Zoological Museum, University of Zurich, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland

LETTERS

Edited by Jennifer Sills

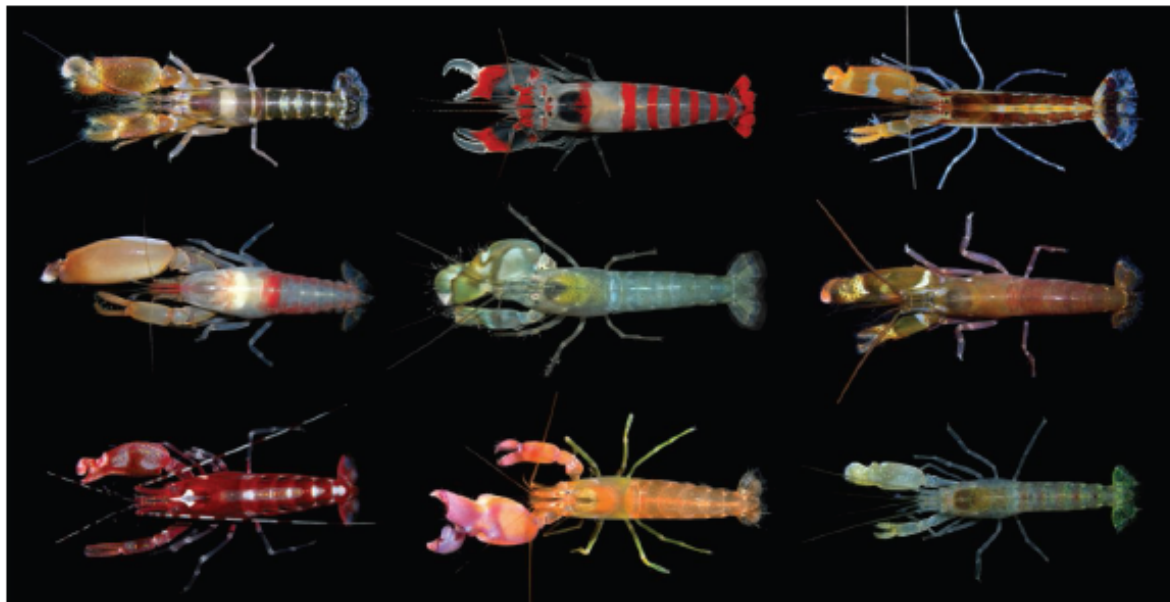
Specimen collection: An essential tool

COLLECTING BIOLOGICAL specimens for scientific studies came under scrutiny when B. A. Minteer *et al.* ["Avoiding (re)extinction," Perspectives, 18 April, p. 260] suggested that this practice plays a significant role in species extinctions. Based on a small number of examples (rare birds, frogs, and a few plants), the authors concluded that collection of voucher specimens is potentially harmful to many species, and that alternatives—photographs, audio recordings and nonlethal tissue sampling for DNA analysis—are sufficient to document biological diversity.

The isolated examples that Minteer *et al.* cited to demonstrate the negative impact of scientific collecting have been carefully analyzed, and none of these extinction events can be attributed to that cause (1–3). For example, only about 102 Great Auk specimens

biodiversity is hidden deep in its habitat (see image)]. Moreover, identification is often not the most important reason to collect voucher specimens. Studies of morphological diversity and its evolution are impossible without whole specimens. Preserved specimens also provide verifiable data points for monitoring species health, distribution, and phenotypes through time. Both historical and new collections played a key role in understanding the spread of the chytrid fungus infection, one of the greatest current threats to amphibians (5). The decision to ban dichlorodiphenyltrichloroethane (DDT)

distract from the primary causes of modern extinction: habitat degradation and loss, unsustainable harvesting, and invasive species (10). It is important to distinguish protecting the lives of individuals from conserving populations and species. Individuals are lost every day to predation, natural death, and anthropogenic factors, hence it is the populations we try to save. Halting collection of voucher specimens by scientists would be detrimental not only to our understanding of Earth's diverse biota and its biological processes, but also for conservation and management efforts. Species descriptions, biodiversity



Science: 12Dec2014

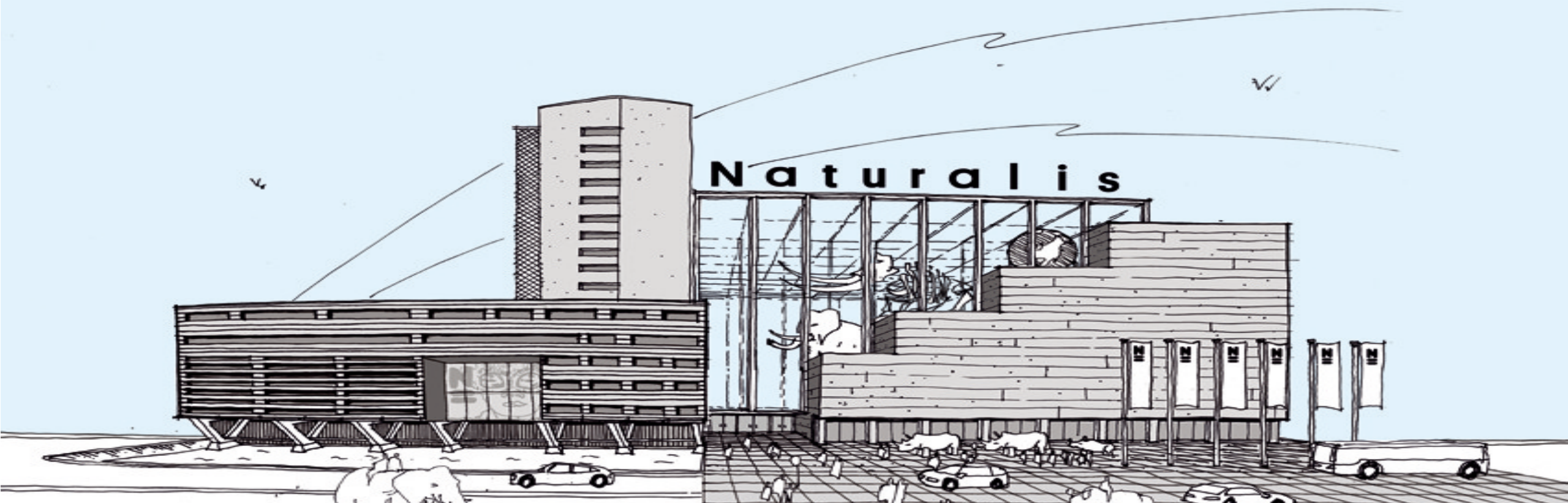
OPINION

Valuing collections



W. John Kress

“...the most pressing challenge is to build collections for future needs...”





Darwin Centre, NHML



Public Museum in Slovenia

NEWS FEATURE



The endangered dead

The billions of specimens in natural-history museums are becoming more useful for tracking Earth's shrinking biodiversity. But the collections also face grave threats.

BY CHRISTOPHER KEMP

Italian natural history museums on the verge of collapse?

Franco Andreone¹, Luca Bartolozzi², Giovanni Boano³, Ferdinando Boero⁴,
Marco A. Bologna⁵, Mauro Bon⁶, Nicola Bressi⁷, Massimo Capula⁸,
Achille Casale⁹, Maurizio Casiraghi¹⁰, Giorgio Chiozzi¹¹, Massimo Delfino¹²,
Giuliano Doria¹³, Antonio Durante¹⁴, Marco Ferrari¹⁵, Spartaco Gippoliti¹⁶,
Michele Lanzinger¹⁷, Leonardo Latella¹⁸, Nicola Maio¹⁹, Carla Marangoni⁸,
Stefano Mazzotti²⁰, Alessandro Minelli²¹, Giuseppe Muscio²², Paola Nicolosi²³,
Telmo Pievani²¹, Edoardo Razzetti²⁴, Giorgio Sabella²⁵, Marco Valle²⁶,
Vincenzo Vomero⁸, Alberto Zilli²⁷

Save the museums

Italy's curators must band together to preserve their valuable collections.

Fausto Barbagli's first curation job was at the University of Pavia in northern Italy. It was the end of the 1990s, and the university was finally starting to pay attention to its valuable but long-neglected zoological collections.

Barbagli is passionate about birds, so he was distressed to find that the labels had fallen off 700 precious taxidermied specimens, devastating their scientific value. A well-intentioned but untrained staff member had decided to spruce up the collection, gifted to the university three decades earlier. He had painted the birds' pedestals — onto which species names had been inscribed — and had fixed neatly typed labels to their feet with rubber bands. As any professional curator knows, rubber perishes.

This story is emblematic of what has happened in historic scientific collections in universities and museums around Italy — some of

Save the museums

Italy's curators must band together to preserve

their valuable collections

“Museologists estimate that at least one-third of all biological specimens have been lost.”

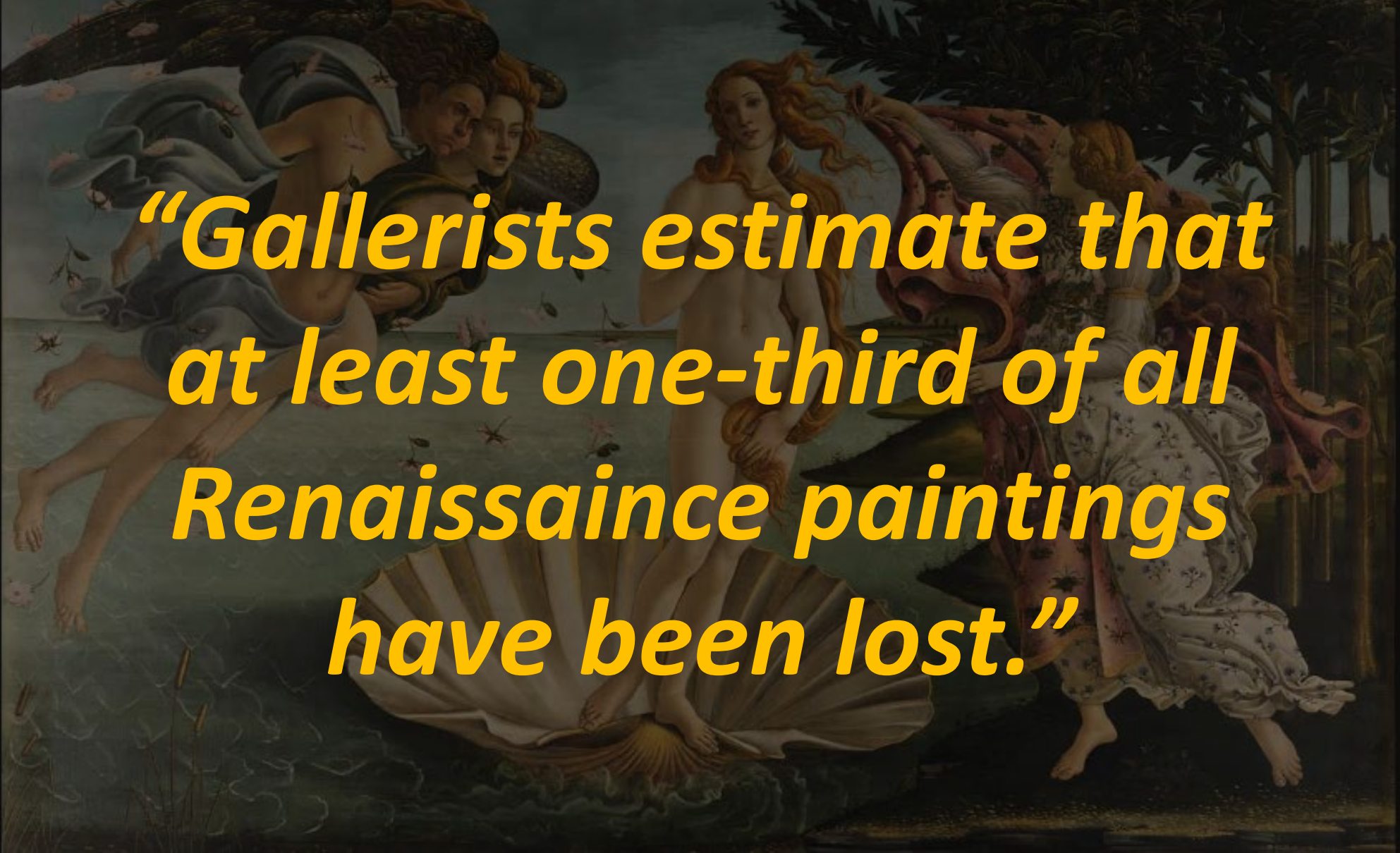
Fausto Barbagli's first curation job was at the University of Pavia in northern Italy. In the early 1990s, the university was finally starting to pay attention to its valuable, long-neglected zoological collections.

Barbagli is passionate about birds, so he was distressed to find that many of the 170,000 specimens had been damaged, compromising their scientific value. A well-intentioned but untrained staff member had decided to spruce up the collection, gifted to the university more than a decade earlier. He had pinned the bird specimens — onto which the names had been inscribed — and affixed neatly typed labels to their feet with rubber bands. As any professional curator knows, rubber perishes.

This story is emblematic of what has happened in historic scientific collections in universities and museums around Italy — some of



Sandro Botticelli, *The Birth of Venus*, 1483-85
Galeria degli Uffizi, Florence

The background of the slide is a reproduction of Sandro Botticelli's painting 'The Birth of Venus'. The painting depicts the goddess Venus emerging from a seashell onto a grassy shore. To her left, two figures (Zephyrus and Chloris) are blowing a breeze, carrying a cloak. To her right, a figure (Cyparis) stands holding a garment. The scene is set on a rocky shore with a forest in the background. The text is overlaid in the center in a bold, yellow, italicized font.

***“Gallerists estimate that
at least one-third of all
Renaissance paintings
have been lost.”***

Sandro Botticelli, *The Birth of Venus*, 1483-85
Galeria degli Uffizi, Florence

US-led attack on Iraq in April 2003



“a crusade to rescue antiquities”

Cultural Calamities: Damage to Iraq’s Museums, Libraries, and Archaeological Sites During the United States-Led War on Iraq

by D. Vanessa Kam, Stanford University

[Archaeologies](#)

..... April 2009, Volume 5, [Issue 1](#), pp 39–65

The “War on Terror” and the Military–Archaeology Complex: Iraq, Ethics, and Neo-Colonialism

Authors

[Authors and affiliations](#)

Yannis Hamilakis 

Natural History Centre Bagh





Nesokia bunnii

Nesokia indica

Bandicota bengalensis

Bandicota savilei

Bandicota indica



ICOM NATHIST

International Council of Museums Committee for Museums and Collections of Natural History

[Home](#)[Archive](#)[Conference 2017 – Pittsburgh, USA](#)[Contact](#)[Evolution](#)[ICOM NATHIST Board](#)[Membership](#)[Projects](#)[Subscribe](#)[Taipei Declaration on NHMs and Biodiversity Conservation](#)

Contact

If you have a query or comment, please use the form below and we will get back to you as soon as possible.

Science: 12Dec2014

OPINION

Valuing collections



W. John Kress

*“...the most pressing challenge
is to build collections for future
needs...”*

Science: 12Dec2014

OPINION

Valuing collections



W. John Kress

*“...the most pressing challenge
is to ~~build~~ **preserve** collections
for future needs...”*

Save the museums

Italy's curators must band together to preserve

German museologists organized themselves into a united front. They catalogued their collections and began a protracted lobbying campaign — until the Wissenschaftsrat, Germany's national science-policy advisory body, understood what would be at stake if collections continued to be dispersed. It then set up a committee to ensure that resources and academic expertise are shared appropriately.

Italian museologists should unite to push for such a structure, which would cost next to nothing but be highly effective. They need to move quickly, and to argue with a single voice. As their colleagues in Germany have shown, the rot can be stopped. ■

knows, rubber perishes.

This story is emblematic of what has happened in historic scientific collections in universities and museums around Italy — some of

Michael Mares

University of Oklahoma: 19 FEBRU



Sam Noble Museum



“We see a decline in many collections in many countries”

The endangered dead
“If a collection is sinking, no one will say it is”

The billions of specimens in natural-history museums are becoming more useful for tracking Earth's shrinking biodiversity. But the collections also face grave threats.

“It's too dangerous. They survive by hiding.”

BY CHRISTOPHER KEMP



Public Museum in Slovenia



**Thank You
for attention**

Public Museum in Slovenia