

Fossils from the Frontier:  
Decades of museum influence on the paleontology  
of Florissant fossil beds



Gwen Antell & Herb Meyer, National Park Service

# Florissant Fossil Beds, Colorado

- 34 Ma (late Eocene) deposits
- Lacustrine setting with volcanic activity
- ca. 1800 fossil species from shale and petrified wood
- 5800 published specimens, 330 publications
- 2 hours from Denver!

Florissant Fossil Beds  
National Monument







1874  
Hayden survey reports Florissant fossils



1969  
National Monument  
established

1877  
Princeton and Scudder  
expeditions

1906-08  
Cockerell expeditions

1953  
MacGinitie monograph

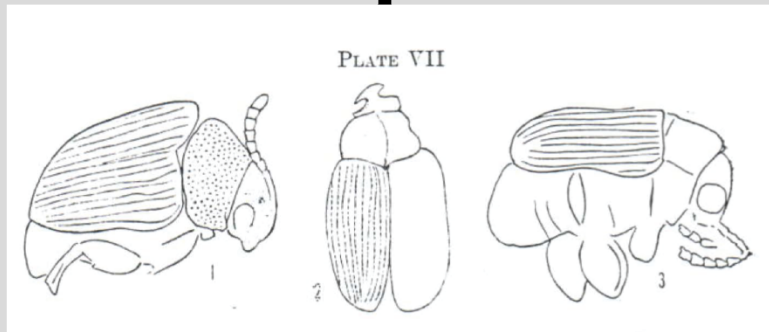
2013  
Visitor Center & Paleontology  
Research Lab opened

1890  
Scudder monograph

1908-1920  
Wickam papers

1874

2016  
National Park Service  
CENTENNIAL



## Nineteenth Century Collectors

- 20-member Princeton Scientific Expedition, July 1877
- Samuel Scudder and Arthur Lakes, August 1877
- Homesteader Charlotte Hill likely the predominant collector
- O.C. Marsh bought fossil plants and insects from Charlotte in 1898



Osborn, Speir & Scott



Charlotte Hill



Samuel H. Scudder



# T.D.A. Cockerell

- Professor at UC Boulder; AMNH and Yale affiliations
- Expeditions to Florissant 1906-1908
- Donated Florissant fossils to various museums
- Advocated for science, paleontology, and an integrated network of museums



**“One great treasure** was a branch of the narrowleaved cottonwood....We packed it up with the greatest care, and **sent it by express to Yale University Museum,** where it arrived in safety.”

**“A tuft of moss...**was appropriately **transmitted for study to Mrs. Gertrude Britton** of the New York Botanical Garden, the best authority on American mosses.”

## Cockerell's "Pan-American Museum Policy"

- i. Local branch museums
- ii. Once central institution

"The National Museum should become national in a larger sense. It seems to me that it should establish branch museums... illustrating the natural history of the regions they represented."  
Cockerell, 1920



# The Diaspora of Florissant Collections

- More than 20 museums hold Florissant fossils
- McGinitie's plants at UC Berkeley
- Scudder's insects at MCZ, Harvard
- Cockerell's specimens at many institutions

Natural History  
Museum, London



U. of Washington

Museum of  
Comparative Zoology

Field Museum of  
Natural History

Yale Peabody Museum

American Museum  
of Natural History

Smithsonian

U. of Colorado  
Museum, Boulder

U. of California Museum  
of Paleontology, Berkeley

Florissant

U. of Florida Museum  
of Natural History





# Establishment of the National Monument

- On-site museum holds ca. 10,000 objects
- Interpretive center hosts educational activities
- Archives document Florissant fossil beds history
- Long-term site monitoring



# A Central Database

- All Florissant type specimens imaged and databased
- Built with cooperation of 17 museums
- Searchable and publicly accessible

planning.nps.gov/flfo/

Florissant Fossil Beds

National Monument

Explore The World of Florissant Paleontology

National Park Service

U.S. Department of the Interior

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SEARCH MUSEUM

Museum Database Fields Key

Each published treatment of a particular Florissant specimen is documented as a separate record for that specimen in the museum database. If a specimen has been dealt with in multiple publications (often under different taxonomic assignments), the database will include multiple records. Publication Status indicates the sequence in which a specimen was published. Original indicates that the record shows the first publication in which the specimen was cited. Most Recent indicates that the record shows the most recently published taxonomic assignment for the specimen. Intermediate indicates that the record shows a published treatment of the specimen between its original and most recent publications. A record is indicated as Original and Most Recent if the original published citation of the specimen also remains the most recent one. The taxonomic database on this web site sometimes provides even more recent updates to the names used in the museum search database, based on the modern taxonomic classification of extant members of the group.

Start Your Search

Museum:

Type Status:

Higher Taxon:

Genus:

Species:

Publication Reference:

Publication Status:

Catalog Number:

Important Information before using this database

Information contained within this database website is protected by copyright to the individual museum indicated. All rights reserved. All media for personal use of students, scholars, and the public. Any commercial use or publication of data or photographs is strictly prohibited. You should contact the individual museums for permission before using any of the information in this database for scientific or other purposes. The data contained herein are not public domain.

... dedicated to providing quality information to the public we serve ...

SEARCH MUSEUM

Museum Database Fields Key

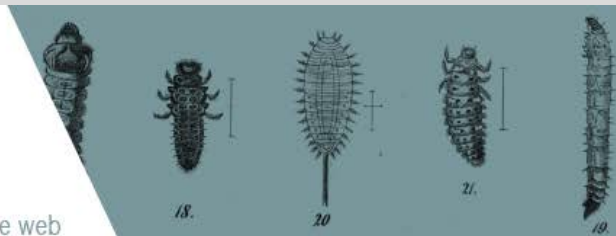
Inventory No: 2938	Photos
Record No: 2938.1	Image No. 1
Higher Taxon: Bivalve	@Copyright
Status: ORIGINAL [AND MOST RECENT?]	The specimens shown here are protected by ©copyright to the museums where they are housed (see database for information). They are illustrated here by permission to Florissant Fossil Beds National Monument only. All rights are reserved by the museum.
Order:	
Family: Cyrenidae	
Genus: Sphaerium	
Species: florissantense	
Author: Cockerell	You must contact that museum for further information or permission for use.
Reference: Cockerell 1906 c	
Page: 462	
Figure: 5 [?]	
Type: Syntype	Remarks: New species. AMNH database indicates that this is fig.5, although that is difficult to verify. See inventory number 2937
Comname:	Inventory No: 2938
Cat Nbr: AMNH-FI-18923	Museum: AMNH
Dimensions: See photograph	Element-Organ: Shell
Item Cnt: 1	Collector: W.P.Cockerell
Description:	Loc Desc:
Coll_Date:	Original Cat No:
Locality: Cockerell 14	Other Nos:
Acc Nbr:	Notes: Rock contains several individual clams, two of which are well preserved.
Counterpart Number:	Date Observed: 09/1997
Obj Status:	Photo Date: 02/06/1997
Observer: H.Meyer	
Photo Credit: H.Meyer	
IntNum: 2938	
Taxonomic Reference   Bibliography Reference	
Important Information before using this database	



# Digitization Collaborations

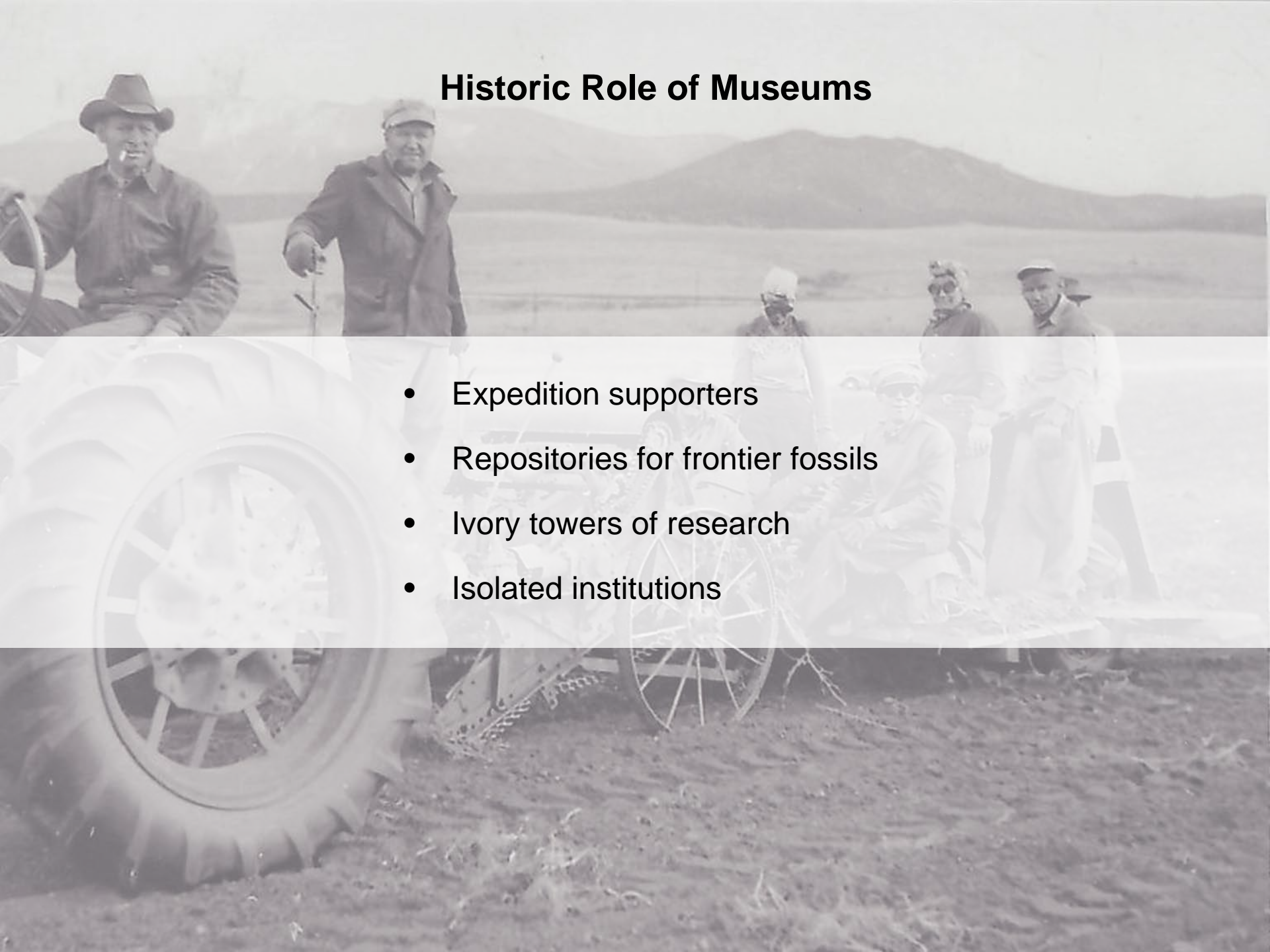


- Fossil Insect Collaborative, 10 museums involved
- Specimen images and museum records uploaded to digital databases
- Data feed into national, NSF-funded database ([iDigBio.org/portal](http://iDigBio.org/portal))



# Historic Role of Museums

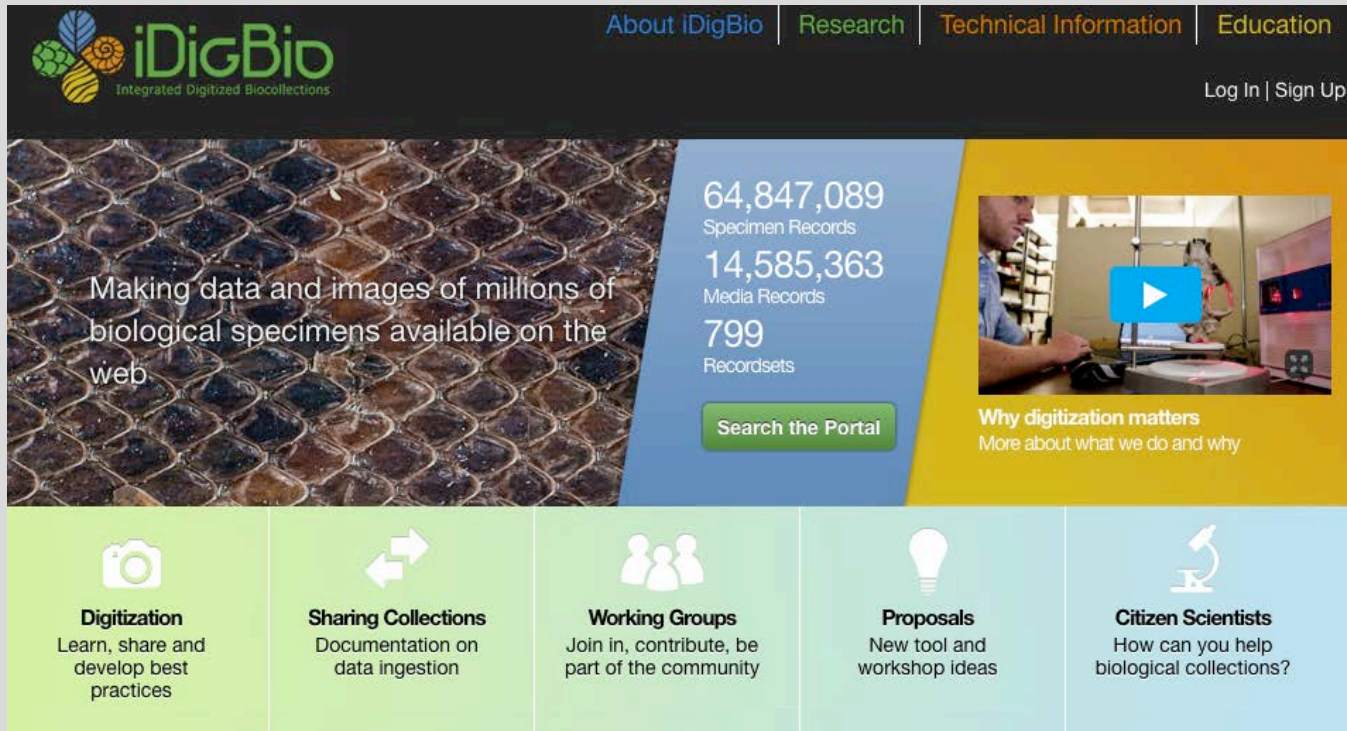
- Expedition supporters
- Repositories for frontier fossils
- Ivory towers of research
- Isolated institutions





# Emerging Role of Museums

- Small museums with local material
- Interpretation and education for general public
- Data distributors, through integrated digitized collections
- In 2016: federally mandated protectors for park fossils



The screenshot shows the iDigBio website. The header includes the iDigBio logo (Integrated Digitized Biocollections) and navigation links: About iDigBio, Research, Technical Information, and Education. There are also links for Log In and Sign Up. The main content area features a large image of a fossilized plant specimen with the text "Making data and images of millions of biological specimens available on the web". To the right, a blue box displays statistics: 64,847,089 Specimen Records, 14,585,363 Media Records, and 799 Recordsets, with a "Search the Portal" button. Further right, a yellow box contains a video player with a play button and the text "Why digitization matters More about what we do and why". The footer consists of five light-colored boxes with icons and text: Digitization (camera icon), Sharing Collections (arrows icon), Working Groups (people icon), Proposals (lightbulb icon), and Citizen Scientists (microscope icon).

**iDigBio**  
Integrated Digitized Biocollections

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Log In | Sign Up

Making data and images of millions of biological specimens available on the web

64,847,089  
Specimen Records

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Why digitization matters  
More about what we do and why

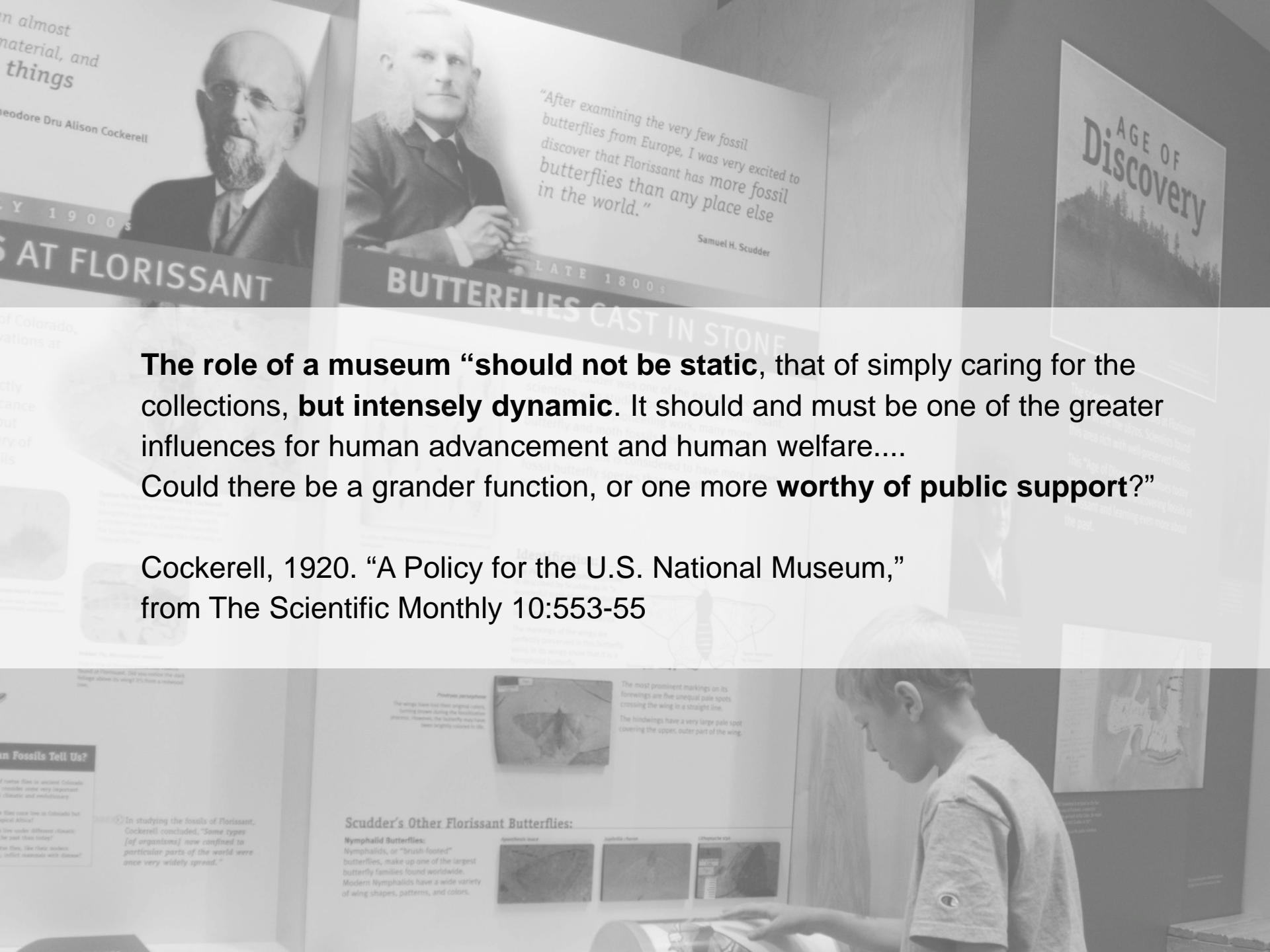
**Digitization**  
Learn, share and develop best practices

**Sharing Collections**  
Documentation on data ingestion

**Working Groups**  
Join in, contribute, be part of the community

**Proposals**  
New tool and workshop ideas

**Citizen Scientists**  
How can you help biological collections?



**The role of a museum “should not be static**, that of simply caring for the collections, **but intensely dynamic**. It should and must be one of the greater influences for human advancement and human welfare....

Could there be a grander function, or one more **worthy of public support?**”

Cockerell, 1920. “A Policy for the U.S. National Museum,”  
from *The Scientific Monthly* 10:553-55



With thanks

