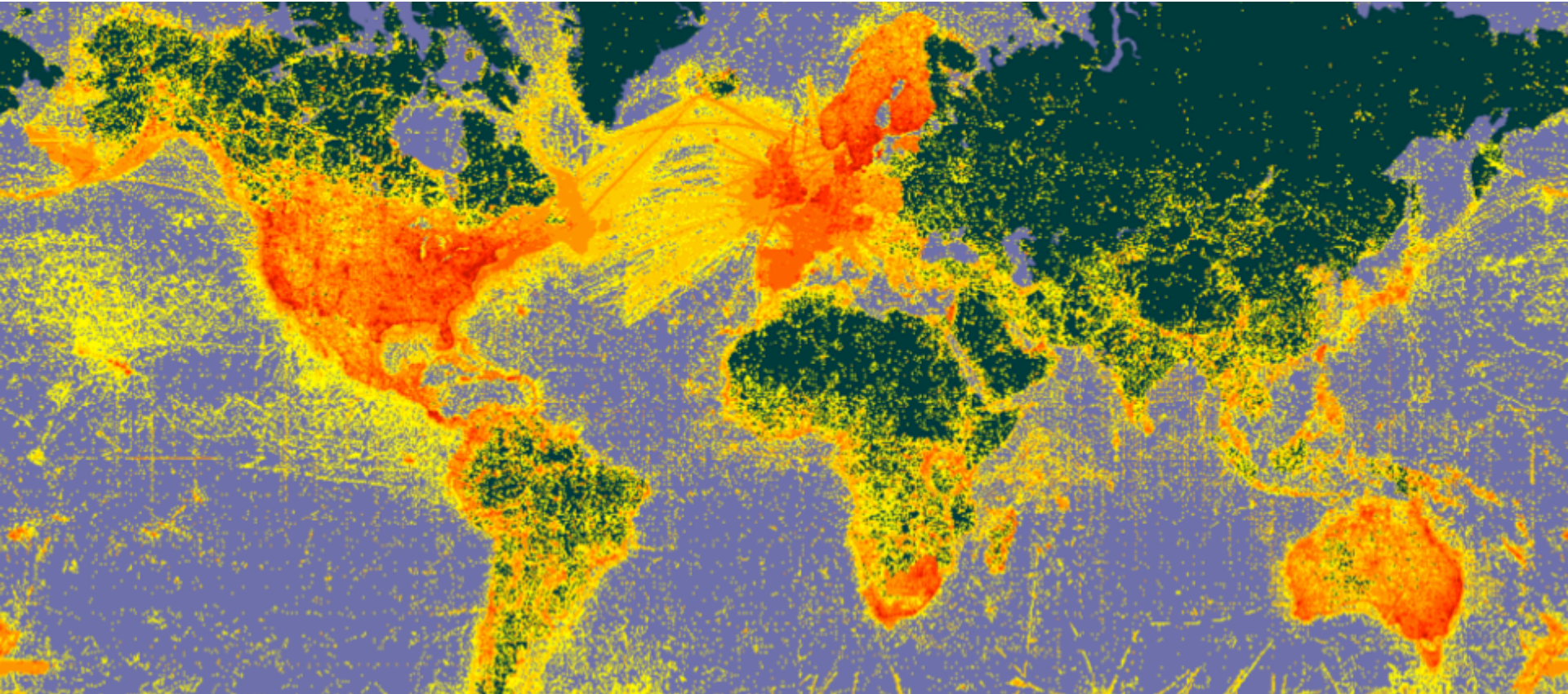




**GBIF**

Global Biodiversity  
Information Facility



# Accelerating the Discovery of Biocollections Data

*Deborah Paul, GBIF Task Force Member, iDigBio Digitization and Workforce Training*  
*Siro Masinde, Programme Officer for Content Mobilization*

Entomological Collections Network Meeting (ECN) 2015, Minneapolis, MN, 14-15 NOVEMBER 2015

# TASK FORCE OBJECTIVES, 2015 - 2016

1. Document best practices in data mobilization
2. Document successful business models for resource mobilization
3. Consult with other capacity building and content mobilization initiatives. e.g., iDigBio, ALA
4. Guidance in training and outreach materials



# GBIF's TASK FORCE MEMBERS

1. Leonard Krishtalka, USA, Chair
  2. Barbara Thiers, USA
  3. Deborah Paul, USA
  4. Eduardo Dalcin, Brazil
  5. Masanori Nakae, Japan
  6. Ian Owens, UK
  7. Jean Ganglo, Benin
  8. Marc Pignal, France
- Siro Masinde, GBIF's task force Coordinator
  - Shari Ellis, GBIF task force Consultant & iDigBio External Evaluator



*Photo by S. Masinde: GBIF task force meeting, 3 Nov 2015.*

# ACCELERATING DISCOVERY OF BIOCOLLECTIONS DATA

## Metadata approach

- c. 90% of world's c. 3 billion specimens of NHCs are not digitized
- Metadata is critical to advancing digitization efforts, priorities and opportunities, and enables the community of users to search and find relevant collections
- **Opportunity to participate whether institution is digitizing or not**



GBIF Global Biodiversity Information Facility

Search occurrences

6,255,969 Occurrences

6,255,969 results

DATASET	LOCATION	BASES OF RECORD	DATE
100000000 - GBIF:100000000 <b>Poa sinica Steud.</b> Published in MNHN occurrence DcCA	Turkey 40,3640 25 Elevation: 2,230m	Specimen	8/2014
100000000 - GBIF:100000000 <b>Cordia Linnaeus, 1753</b> Published in MNHN occurrence DcCA	Mexico 900 Elevation: 400m	Specimen	8/2014
100000000 - GBIF:100000000 <b>Vitis rotundifolia var. munsoniana (Simp.)</b> Published in MNHN occurrence DcCA	United States 20,000 00 00 Elevation: 100m	Specimen	8/2014
100000000 - GBIF:100000000 <b>Boerhavia erecta L.</b> Published in MNHN occurrence DcCA	Mexico 900 Elevation: 400m	Specimen	8/2014
100000000 - GBIF:100000000 <b>Vitis cinerea var. floridana Munson</b> Published in MNHN occurrence DcCA	United States 20,000 00 00 Elevation: 100m	Specimen	8/2014
100000000 - GBIF:100000000 <b>Vitis cinerea (Engelm.) Engelm. ex Miill.</b> Published in MNHN occurrence DcCA	United States 20,000 00 00 Elevation: 100m	Specimen	8/2014
100000000 - GBIF:100000000	United States		

# SURVEY ON NATURAL HISTORY COLLECTIONS

Purpose is to determine:

- **Digital readiness** of the world's biocollections and their institutions
- **Benefits** to a collection / institution that digitization engenders
- **Impediments** to collection data digitization
- Make appropriate **recommendations**



[https://ufl.qualtrics.com/SE/?SID=SV\\_byg2mgbtYdeF3bt](https://ufl.qualtrics.com/SE/?SID=SV_byg2mgbtYdeF3bt)

***Please participate in survey,  
it takes 10 - 30 minutes***

INSTITUTION, COLLECTION AND ROLE

Q1. Which of the following best describes your institution?

**University-based**

Part of a primarily privately-funded university, e.g., Harvard's Museum of Comparative Zoology

Part of a primarily public-funded university, e.g., University of Florida Natural History Museum, Zoological Museum, Univ. Copenhagen, Museu Nacional - UFRJ - Brazil, Bolus Herbarium (University of Cape Town)

**Not university-based**

Primarily funded by national, state or city government, e.g., Smithsonian's National Museum of Natural History, Museum National d'Histoire Naturelle (Paris), Virginia Museum of Natural History, IVPP (People's Republic of China), Rio de Janeiro Botanical Garden, National Museums of Kenya

Primarily privately-funded institution/museum, e.g., Carnegie Museum of Natural History, California Academy of Sciences (San Francisco), New York Botanical Garden

Individual Private collection, e.g., American Entomological Institute

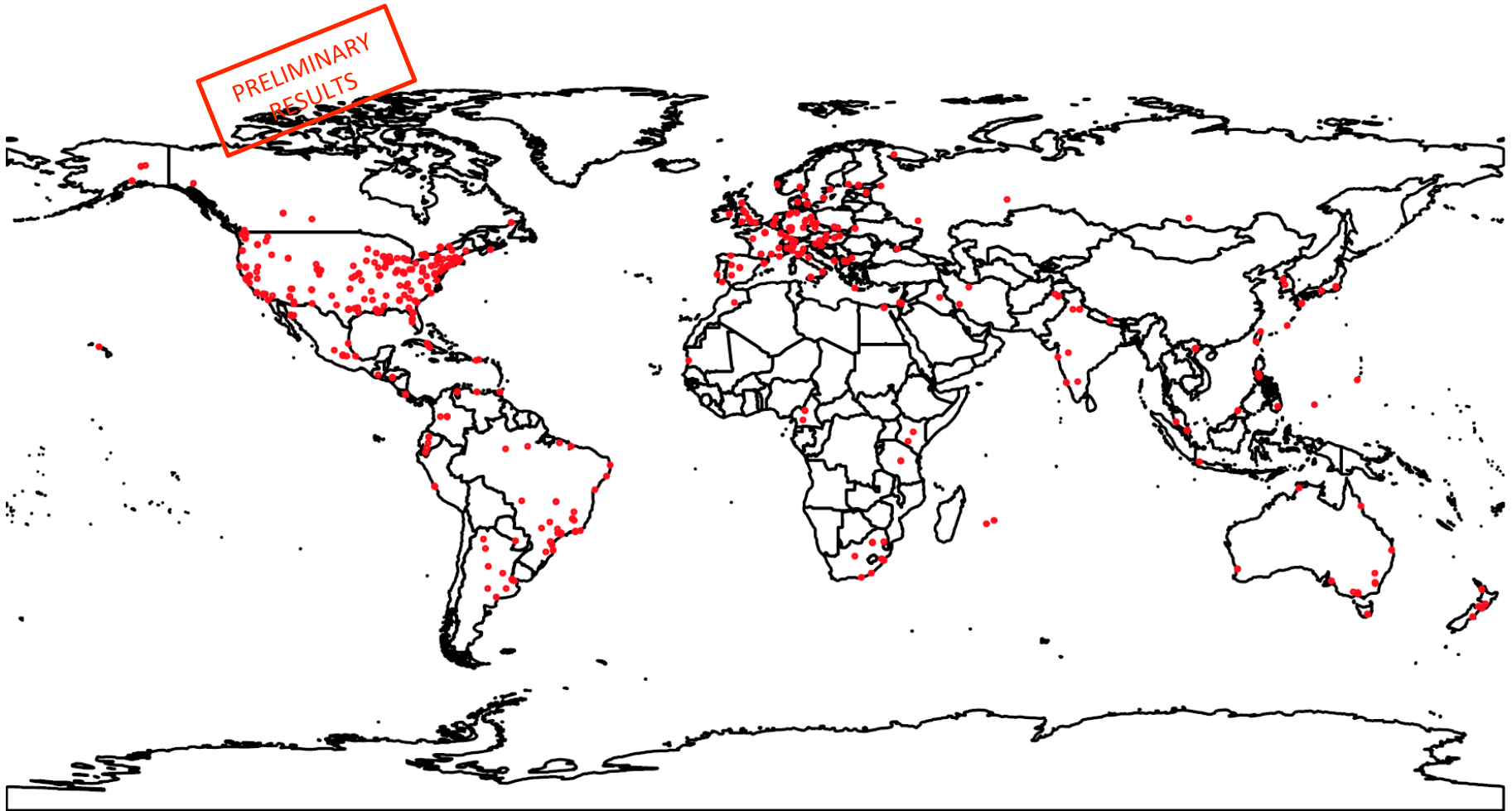
Q2. What is/are the primary role(s) you play at your institution? Please check all that apply.

Director/President/CEO

Head of Research and Collections

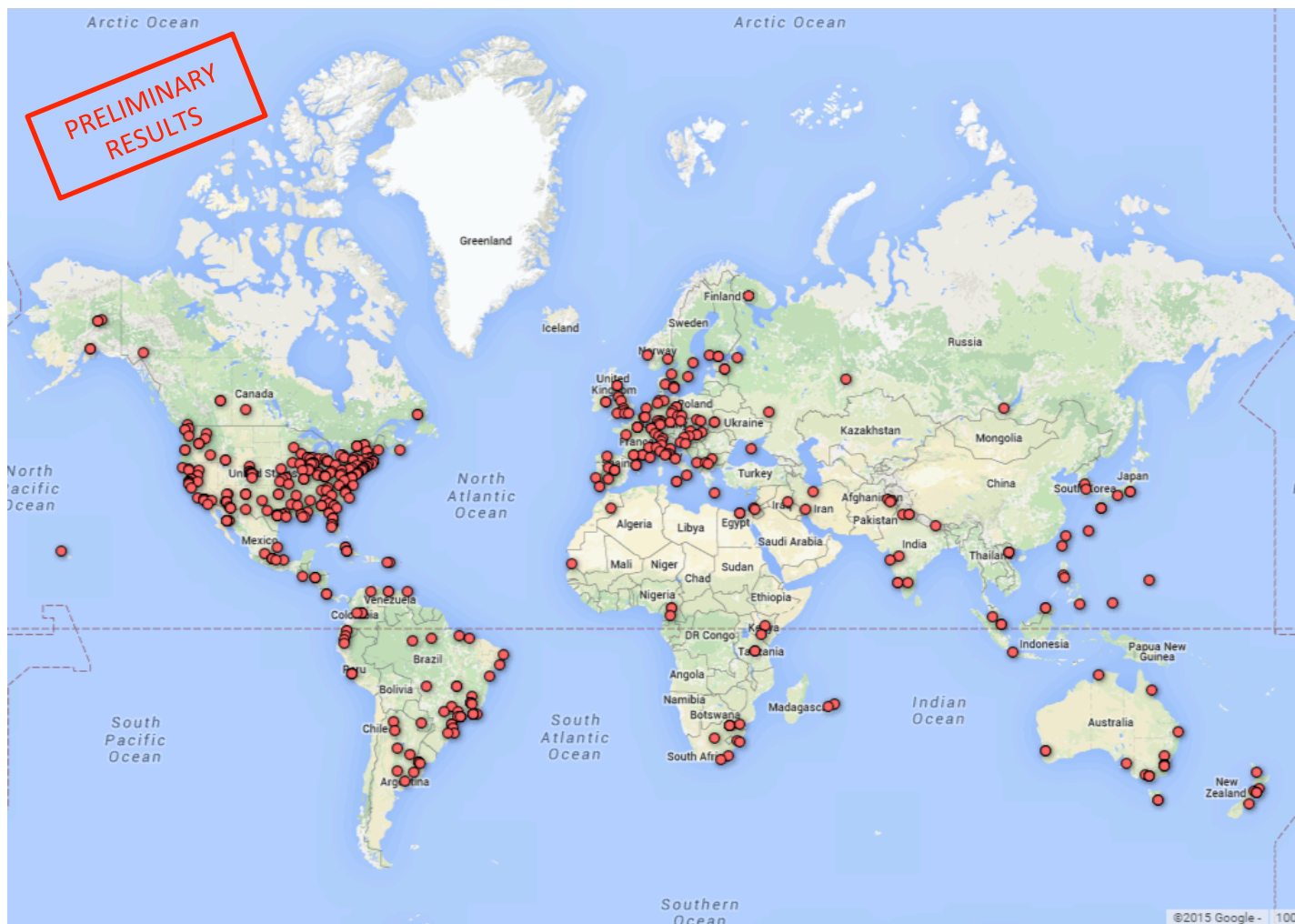
Curator

# WORLDWIDE SURVEY *in-progress*



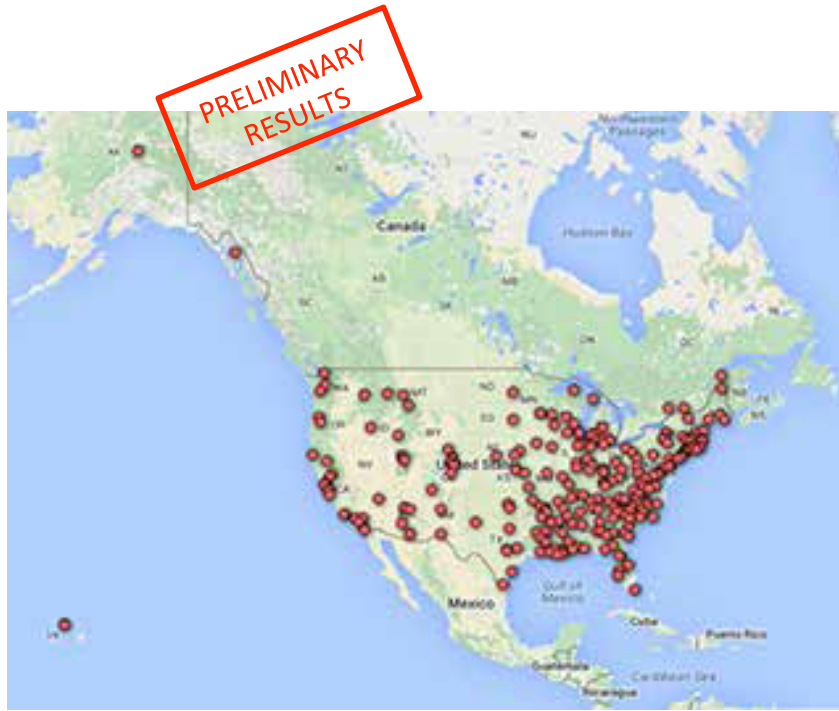
Map by K. Love (iDigBio) for GBIF task force presentation, 5 Nov 2015.

# PRELIMINARY SURVEY RESULTS



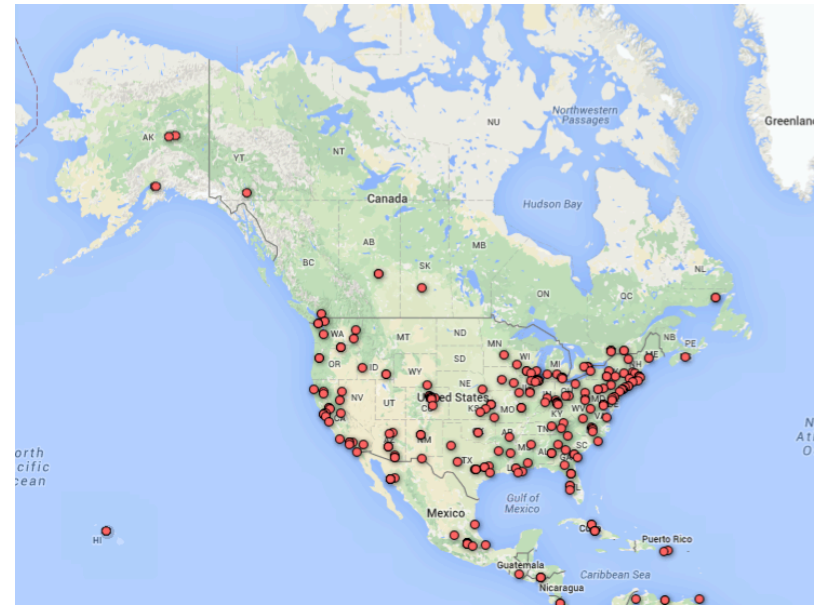
- > c. 600 responses
- USA among best response rate
- *Survey closes Nov 20, 2015 -- responses still coming in*

# NORTH AMERICA RESPONSES



## ADBC PROJECTS

*Image taken from iDigBio Summit V program*



## SURVEY RESPONSES



### Number and Percent of Respondents from Each Collection Type

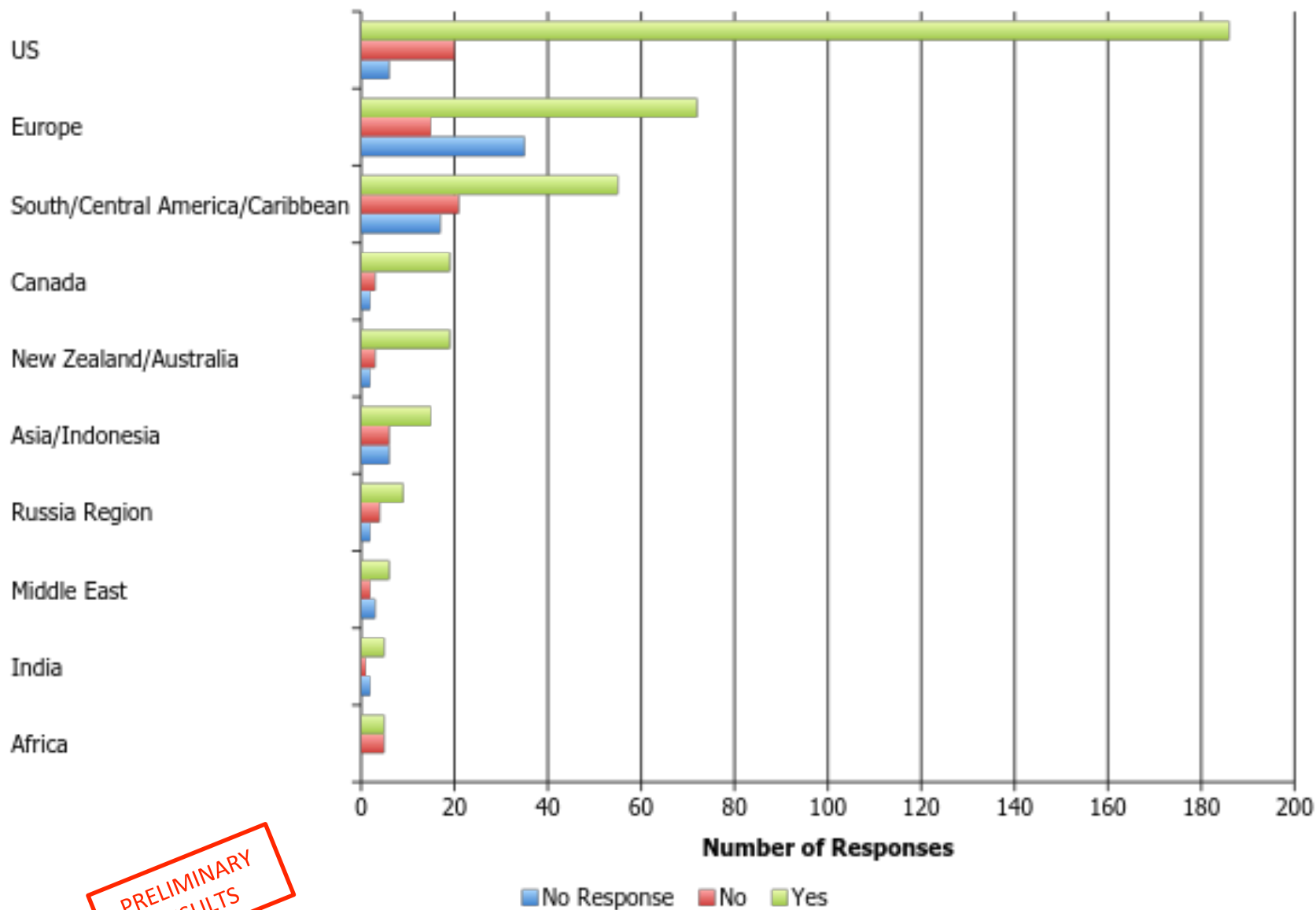
Vascular Plants	337	63%	Ichthyology	63	12%
Bryophytes	187	35%	Malacology	58	11%
Fungi & lichens	182	34%	Invertebrates, terrestrial	55	10%
Algae	143	27%	Marine Invertebrates	54	10%
Arthropods	116	22%	Paleobotany & Palynology	42	8%
Mammalogy	67	13%	Vertebrate Paleontology	41	8%
Ornithology	68	13%	Other	48	9%
Herpetology	63	12%	Invertebrate Paleontology	40	7%

PRELIMINARY  
RESULTS

Percent of Collection Being Databased & Shared/Published				
Collection	#	Databased	#	Shared
Vascular Plants	n = 239	46%	n = 231	37%
Bryophytes	n = 141	37%	n = 132	28%
Fungi & lichens	n = 141	47%	n = 123	38%
Algae	n = 112	36%	n = 101	37%
Arthropods	n = 87	31%	n = 77	28%
Mammalogy	n = 58	67%	n = 27	47%
Ornithology	n = 54	65%	n = 51	30%
Herpetology	n = 52	65%	n = 49	34%

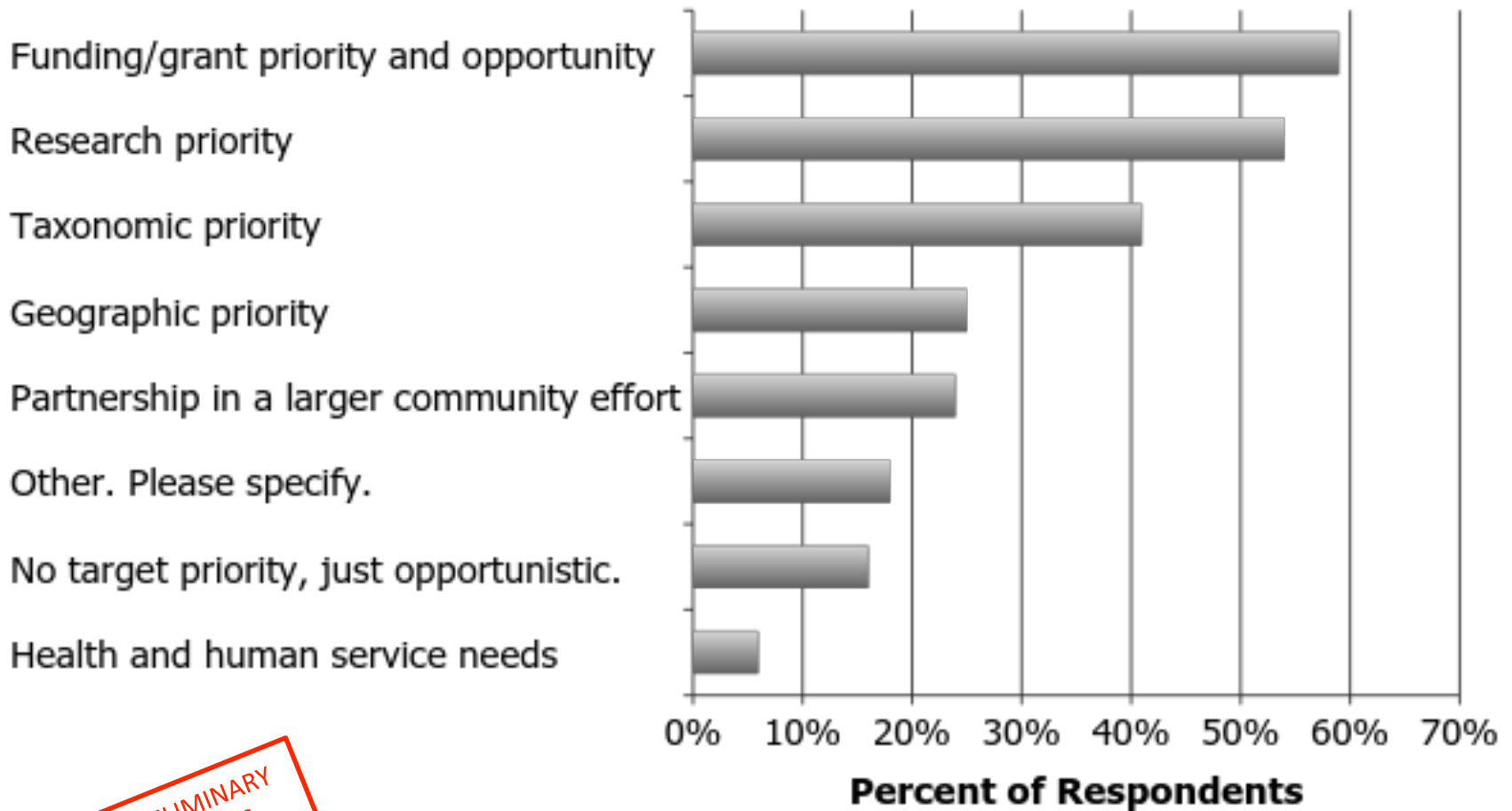
PRELIMINARY  
RESULTS

### Digitization by Region



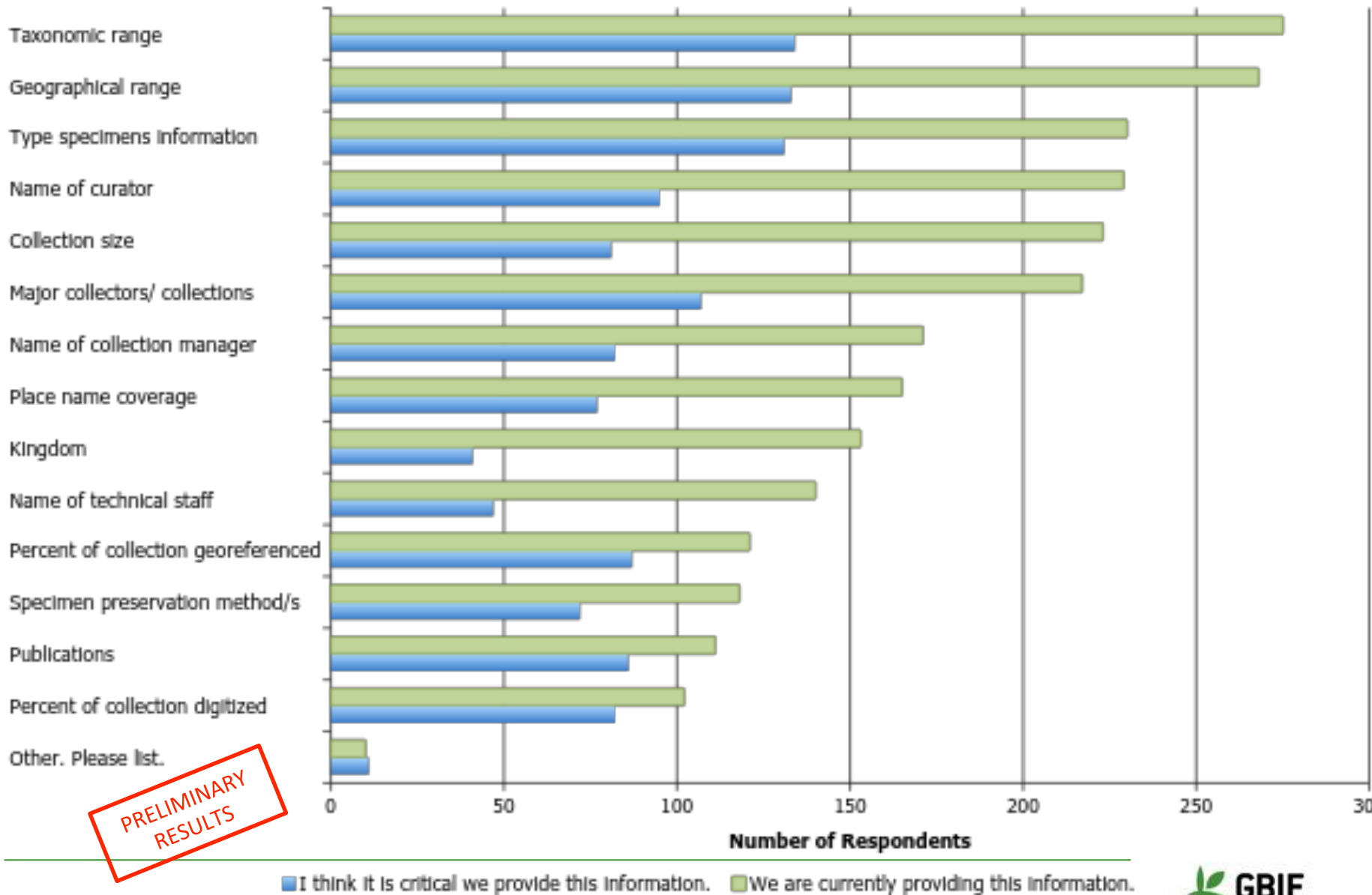
**PRELIMINARY RESULTS**

# MOTIVATION FOR DIGITIZING

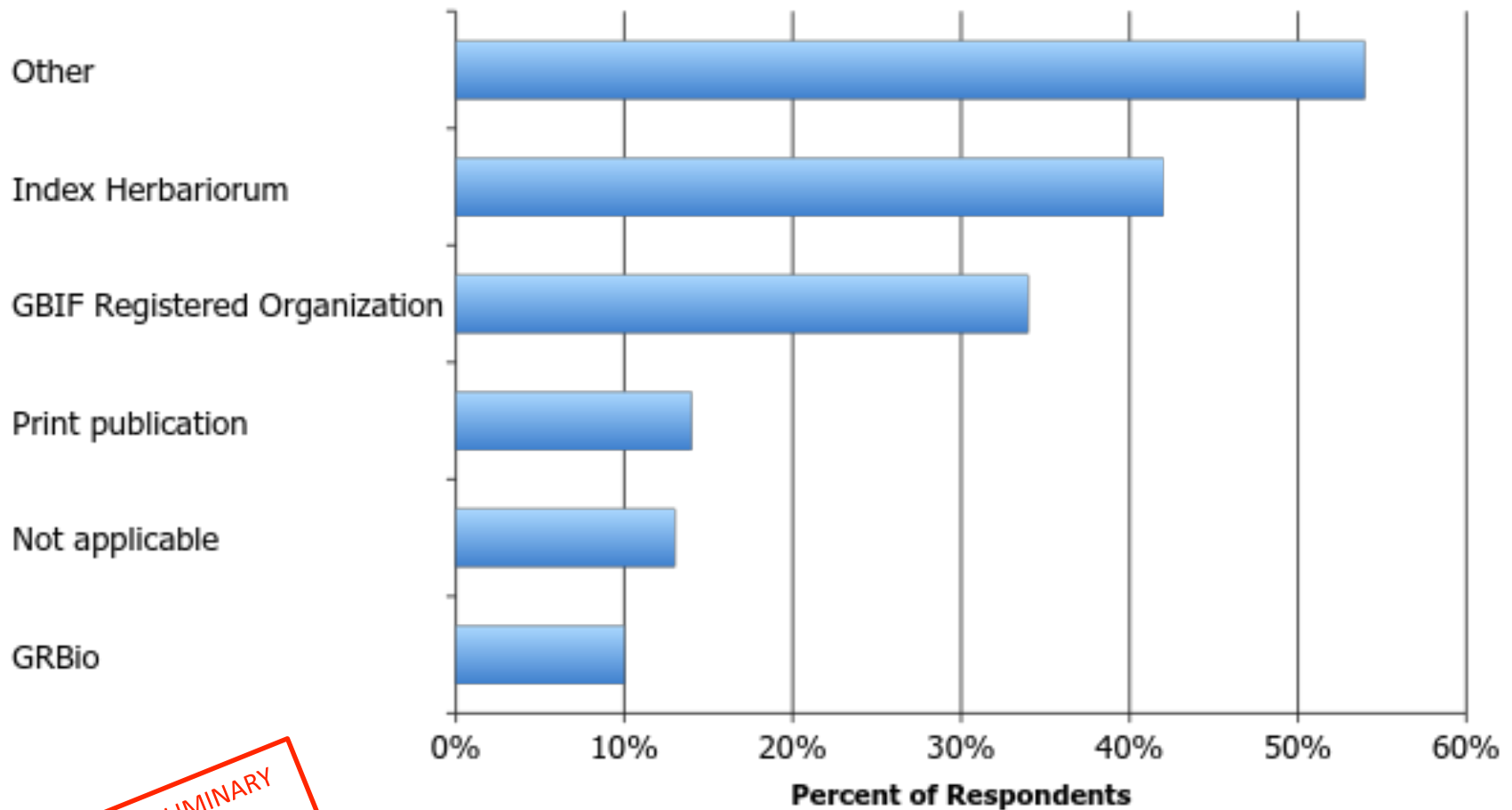


PRELIMINARY  
RESULTS

# IMPORTANCE OF METADATA

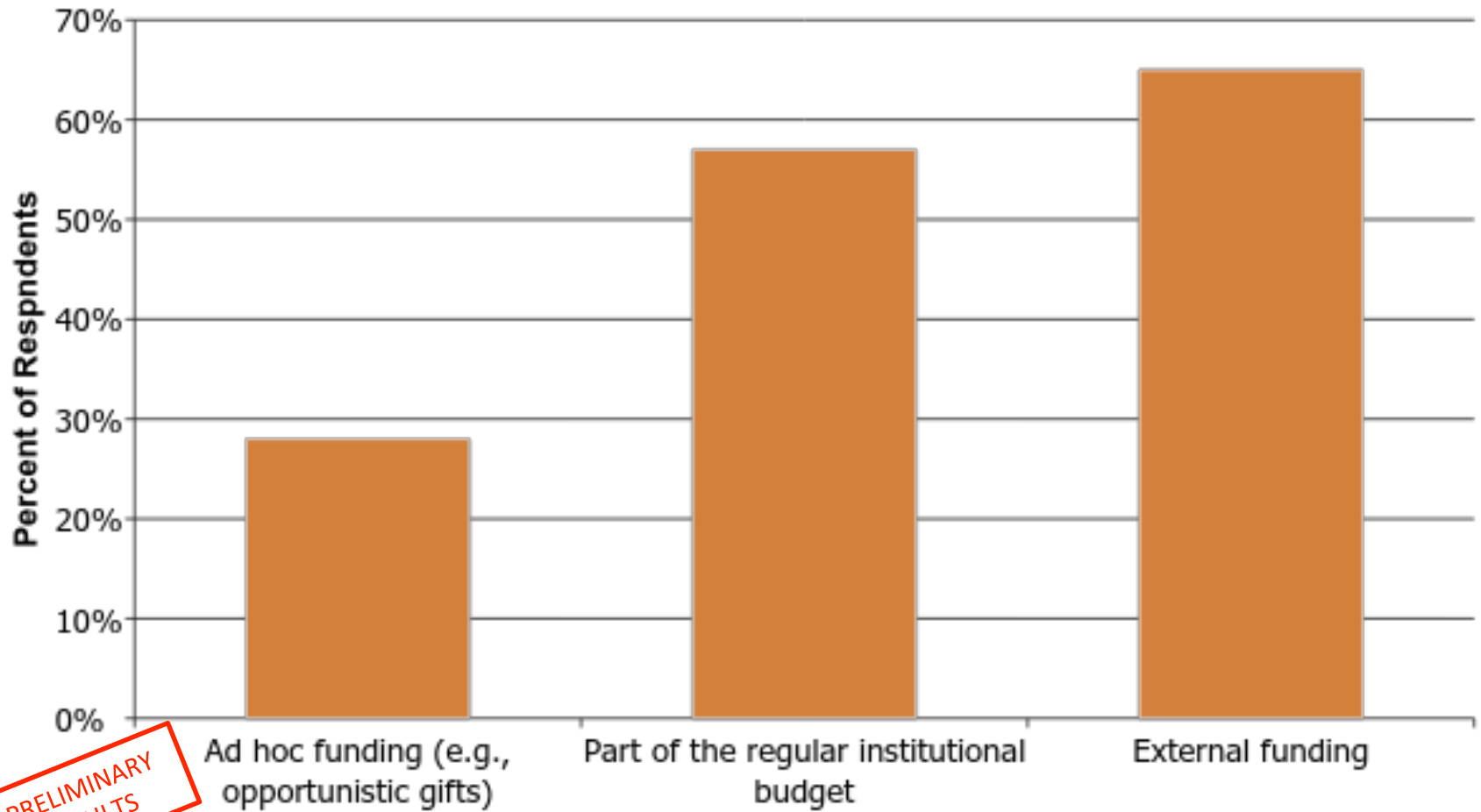


# WHERE METADATA IS SHARED – 60 LOCATIONS



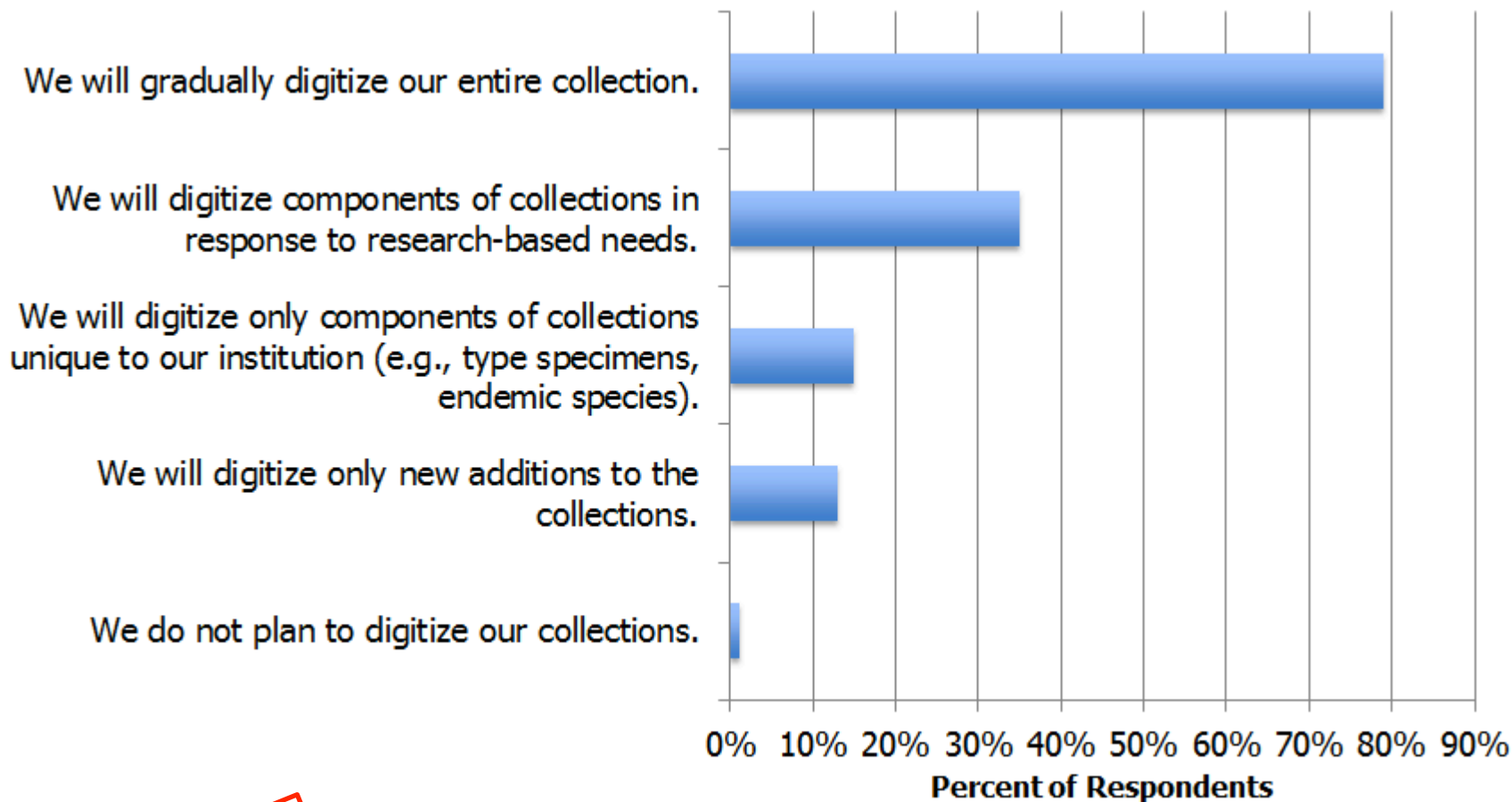
PRELIMINARY  
RESULTS

# SOURCES OF FUNDING



PRELIMINARY RESULTS

# LONG TERM PLANS



PRELIMINARY RESULTS



# TOP 6 REASONS FOR NOT DIGITIZING

1. *Funding/resources* not available
2. Lack of *time* among personnel
3. Limited **expertise** among personnel
4. **Not a priority** of the individual in charge of the collection
5. **Insufficient information** on digitization process and protocols
6. **Size of task** is overwhelming

PRELIMINARY  
RESULTS

# NEXT STEPS

Task Force recommending that the

**DATA → KNOWLEDGE → APPLICATION**

value chain framework be used to mobilize resources and prioritize digitization

THANK YOU | GRACIAS



**GBIF.org**

Twitter

Facebook

Research uses

LinkedIn Group

Github



Entomological  
Collections  
Network

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[linkedin.com/grp/home?gid=55171](https://www.linkedin.com/grp/home?gid=55171)

[github.com/gbif](https://github.com/gbif)