

oVert



openVertebrate Thematic Collections Network

\$2.5M from NSF's *Advancing Digitization of Biodiversity Collections* program

2017–2021



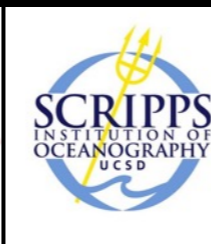
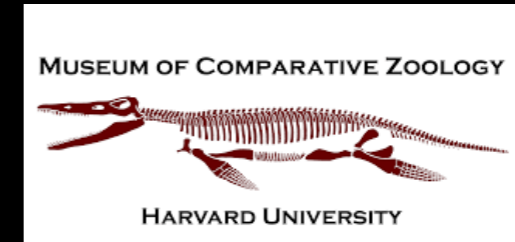
CT-scan >20,000 fluid-preserved vertebrate specimens

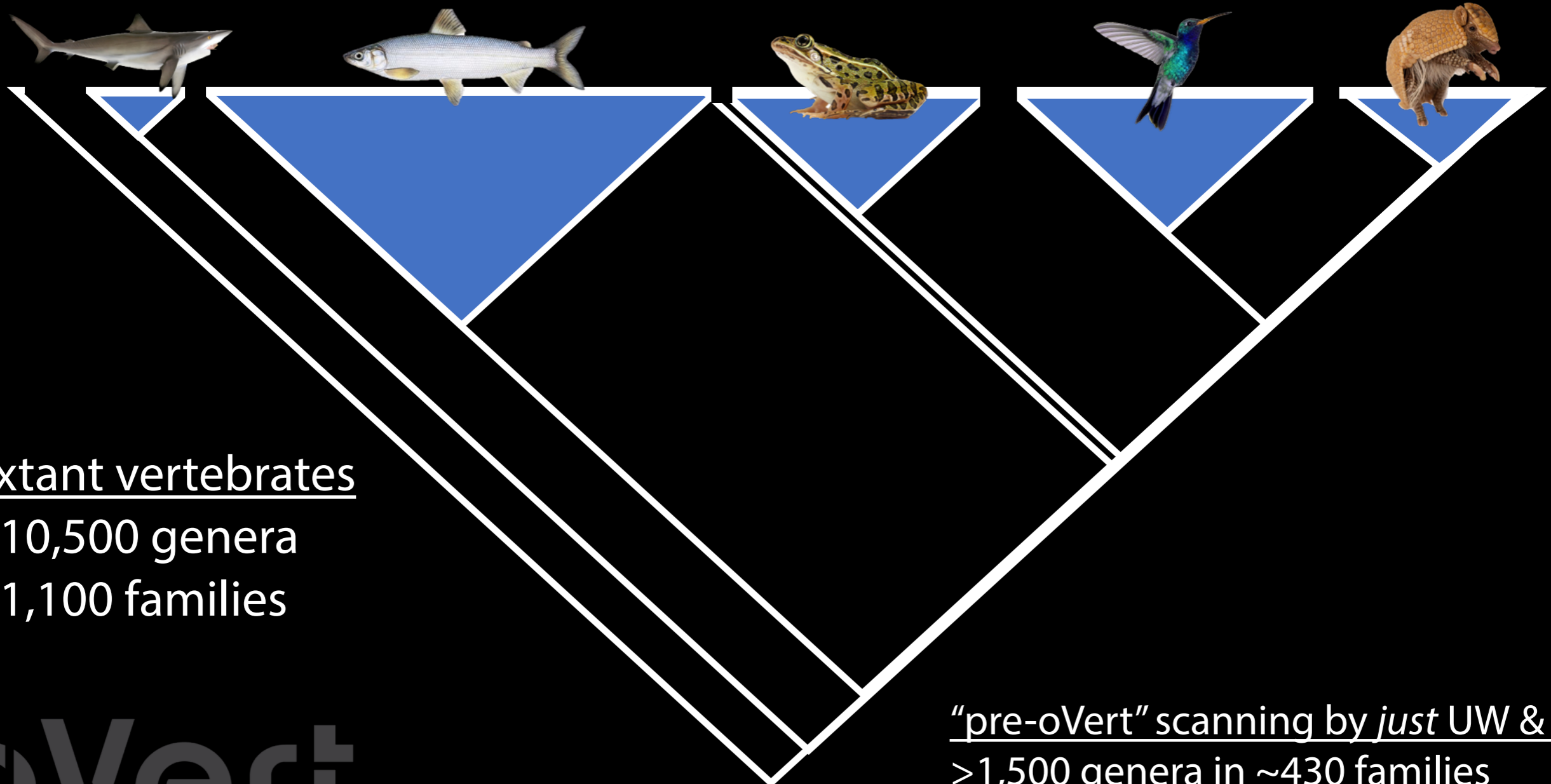
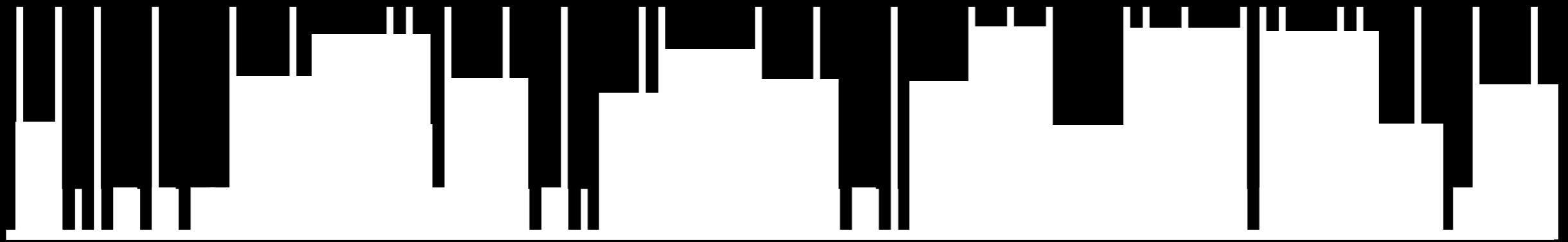
Scan >80% extant genera; "soft tissue" scan >60% extant families

Make both raw and processed data freely available on-line

overt

18 funded institutions, including 16 museums and 6 imaging centers





extant vertebrates

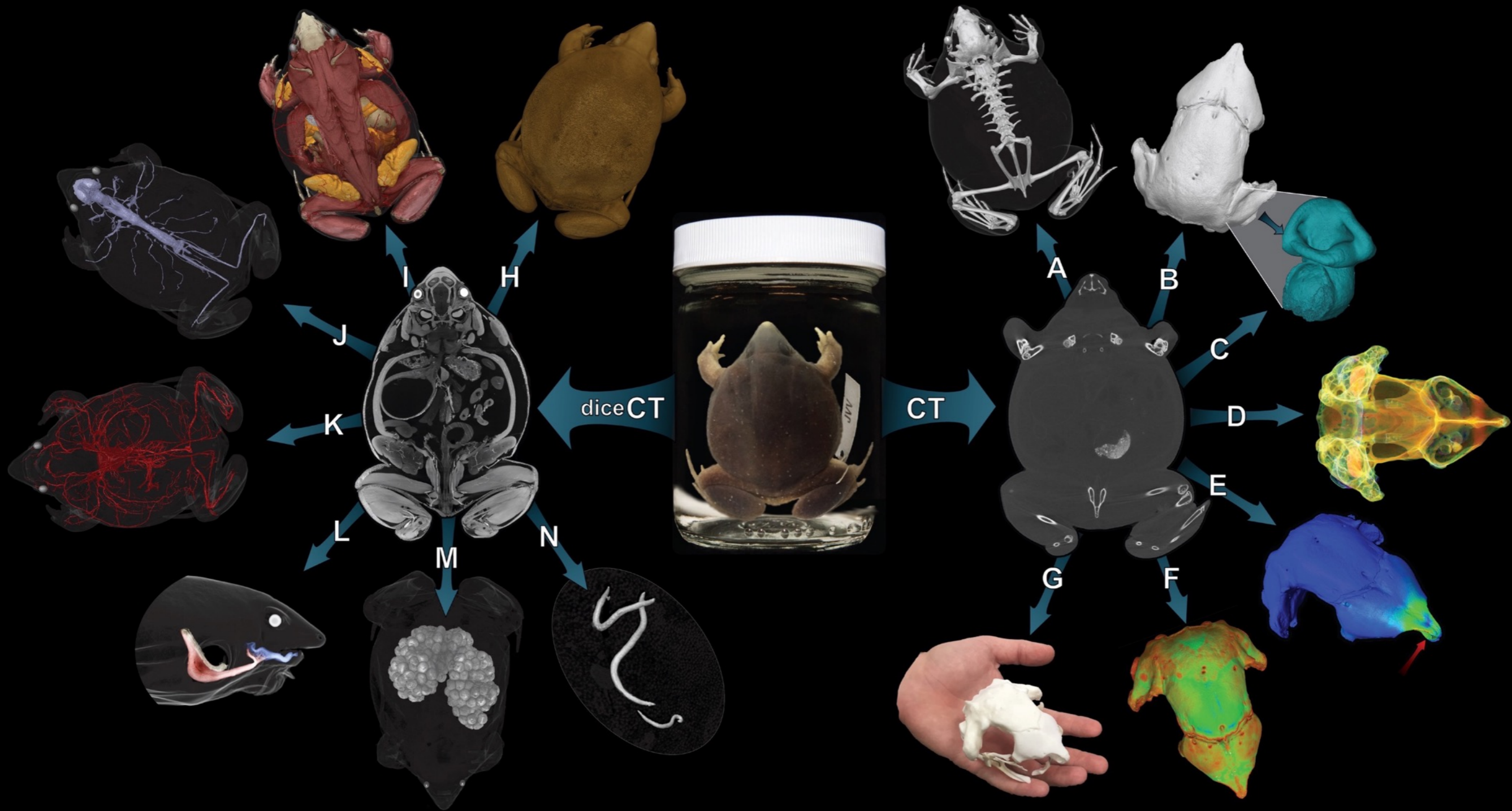
~10,500 genera

~1,100 families

"pre-oVert" scanning by just UW & UF

>1,500 genera in ~430 families

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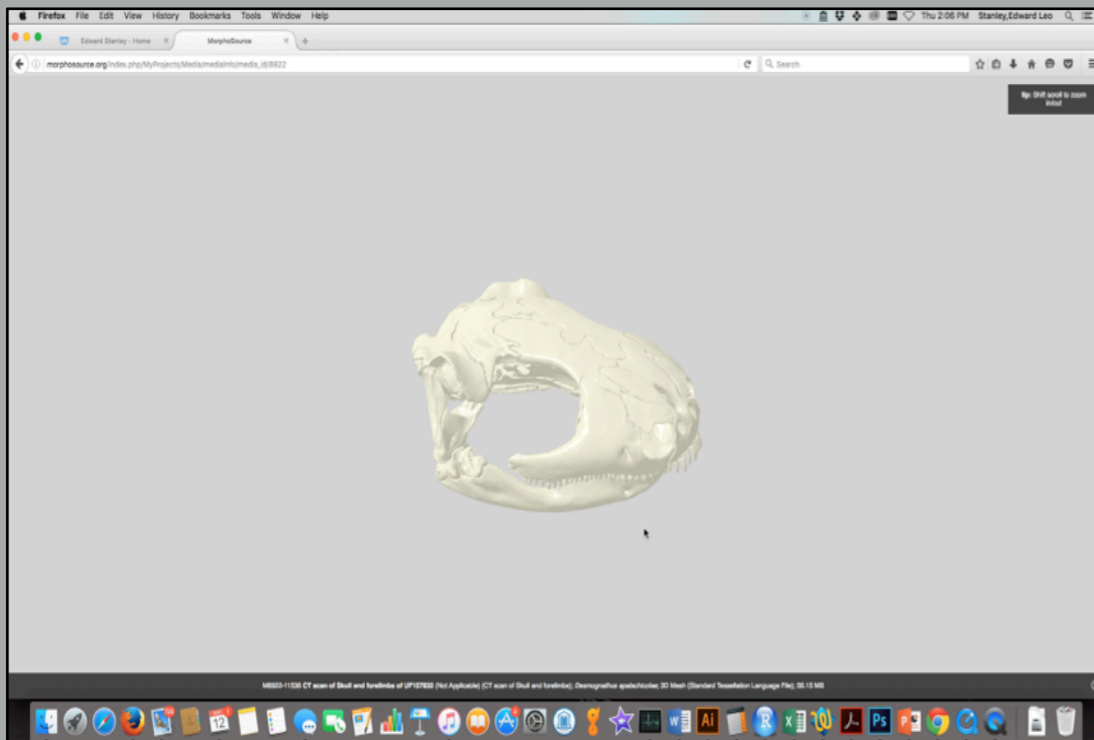


resolution of scans: ~20–80 μm

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Data deposited in MorphoSource

- 3D mesh files (.stl)
- image stacks (.zip of .TIFF)



Download or view in browser

bit.ly/3DFrogs

Project: Frog Diversity

BACK

Members

David Blackburn, Trevor McCabe, Daniel Paluh, Maria Passarotti, Amber Singh, Edward Stanley, Olivia Trumble

Data

109 published media
173 specimen with published media

More Information

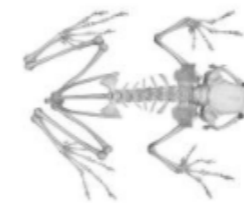
www.blackburnlab.org

About the project

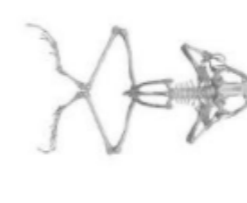
The Blackburn Lab at the University of Florida's Florida Museum of Natural History is assembling a collection of CT scan data representing all extant families of frogs. This comparative dataset provides a library of anuran skeletons diversity that can be used in studies of diversity, evolution, comparative morphology, and paleontology.

173 Project Specimens

Group by: [Specimen Number](#) | [Family](#) | [Genus](#) | [Species](#)



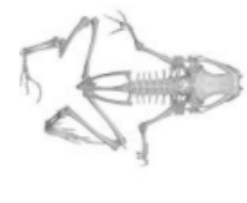
Allophrynidae
[2 Specimens](#)



Alsodidae
[2 Specimens](#)



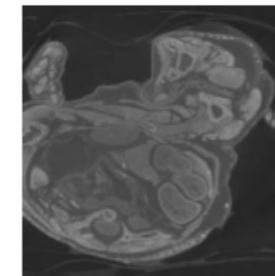
Alytidae
[2 Specimens](#)



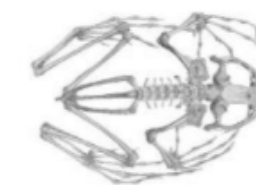
Aromobatidae
[1 Specimen](#)



Arthroleptidae
[8 Specimens](#)



Ascaphidae
[1 Specimen](#)



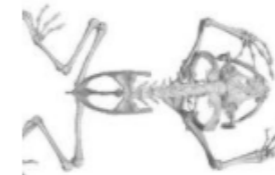
Batrachylidae
[3 Specimens](#)



Bombinatoridae
[2 Specimens](#)



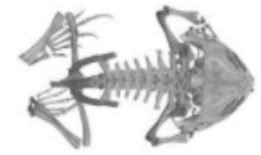
Brachycephalidae
[10 Specimens](#)



Brevicipitidae
[6 Specimens](#)



Bufonidae
[16 Specimens](#)



Calyptocephalellidae
[1 Specimen](#)

132 UF Herpetology specimens on MorphoSource since ~March 2016
>15,000 media views, and >2,600 downloads

example: *Shinisaurus crocodilurus*

>880 views on MorphoSource, 20+ downloads in Australia, UK, and US

The screenshot shows the MorphoSource website interface. At the top, there are navigation links: ABOUT, BROWSE, DASHBOARD, and a search bar. Below the navigation, the MorphoSource logo is displayed with the text "BY DUKE UNIVERSITY". The main content area is titled "Media: M12414". On the left, there are sections for "Project" (Digitizing the Florida Museum of Natural History's Herpetology collections), "Specimen Information" (Specimen: UF-H-60925, *Shinisaurus crocodilurus*; Specimen taxonomy: *Shinisaurus crocodilurus*; Element: CT scan of body; Institution: University of Florida, Florida Museum of Natural History, Gainesville, Florida, United States), and "Scan Information" (Description: CT scan of *Shinisaurus crocodilurus*; Facility: Florida Museum of Natural History Herpetology; X res: 0.10264768 mm; Y res: 0.10264768 mm; Z res: 0.10264768 mm; Voltage: 100 kv; Amperage: 200 µa; Watts: 20 W; Projections: 1200; Wedge: air; Scanner calibrations: geometric calibration; Technicians: Edward Stanley; Media created on: December 7 2016 at 13:00:09; Media last modified on: December 7 2016 at 13:00:09). On the right, there are three media files listed: M12414-20363 (3D Mesh, 142.67 MB), M12414-20364 (3D Mesh, 39.27 MB), and M12414-20365 (TIFF image series ZIP file, 1.37 GB). Each file has a thumbnail image and an "ADD" button. At the bottom of the page, there are links for CONTACT, LOGOUT, TERMS AND CONDITIONS, and USER GUIDE, and a disclaimer: "Commercial use of MorphoSource media is strictly prohibited."



Stats on *Shinisaurus* Specimens

202 records in iDigBio

176 specimens in US

47 skeletons in 4 US institutions

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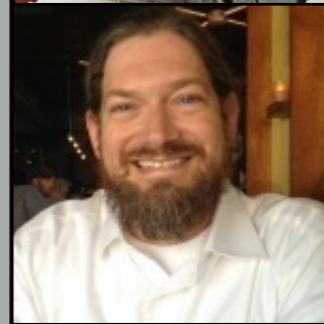
>50% download requests are for 'non-research'
most state an intention to 3D print

K12 classrooms



Academy of Holy Names
Tampa, Florida

Undergrad Teaching



Chris Sheil
John Carroll University

Art: "Creature Design" class

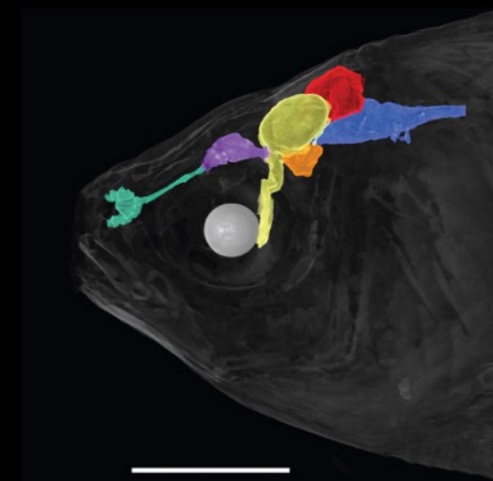
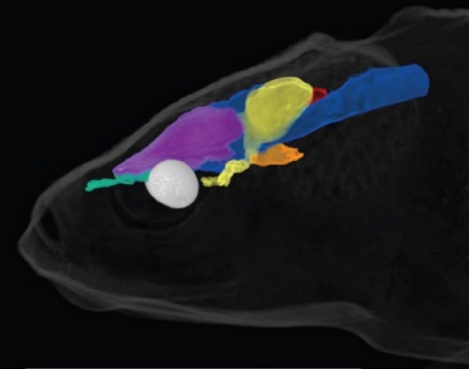
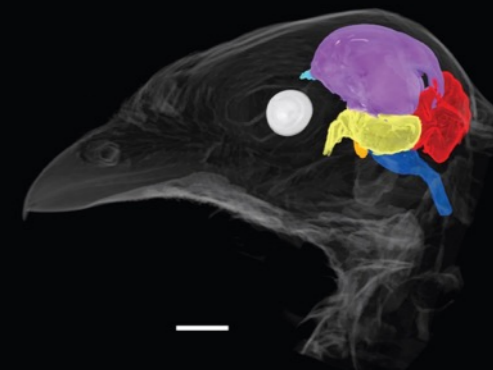
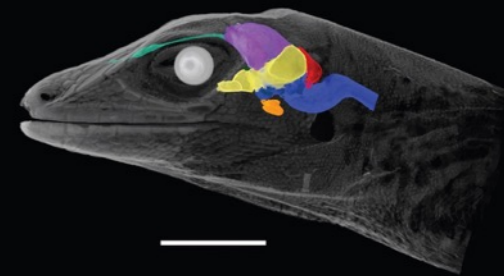
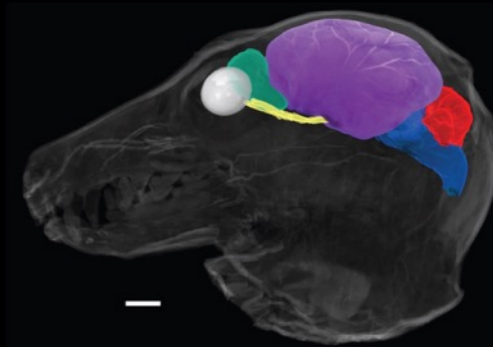
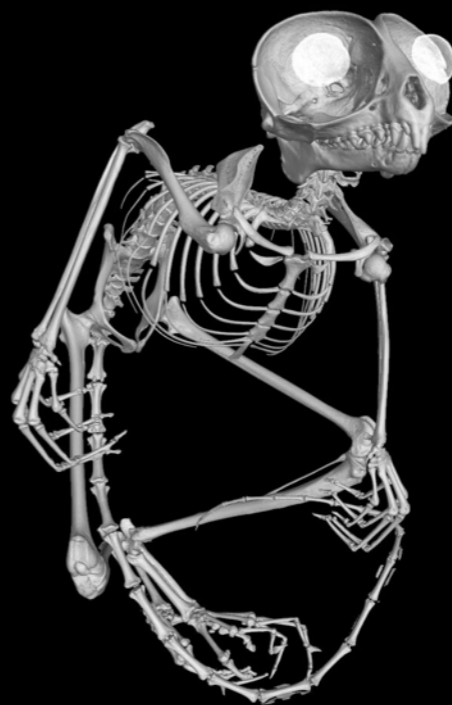
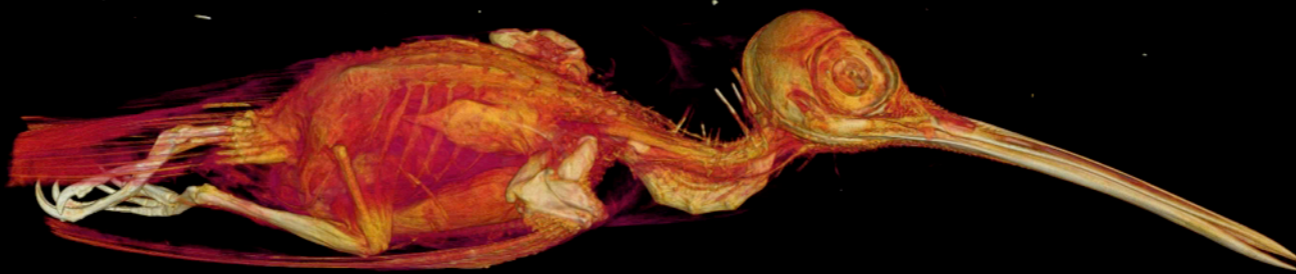
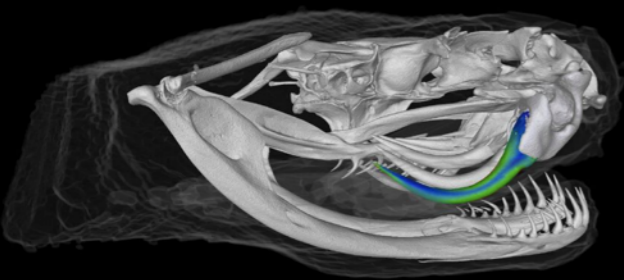
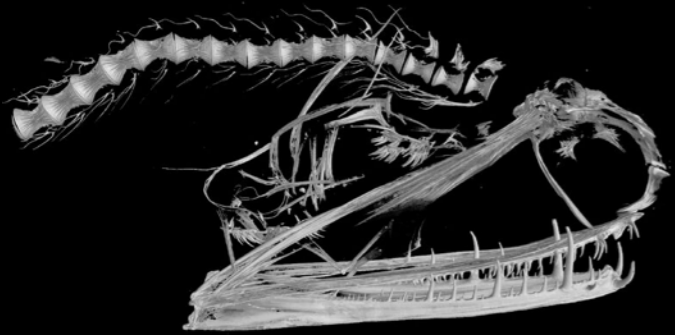
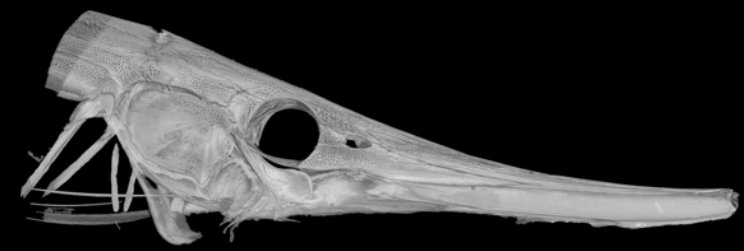


Lars Grant-West
Rhode Island School of Design

Goals for broader impacts:

engage high school teachers in lesson plan development

develop on-line tutorials for using 3D data in research and education



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