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***Biodiversity, Collections,
& Habitat Networks***

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Food webs

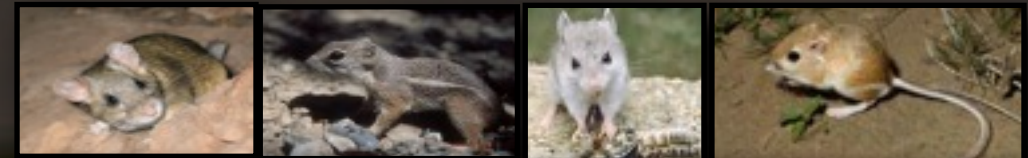
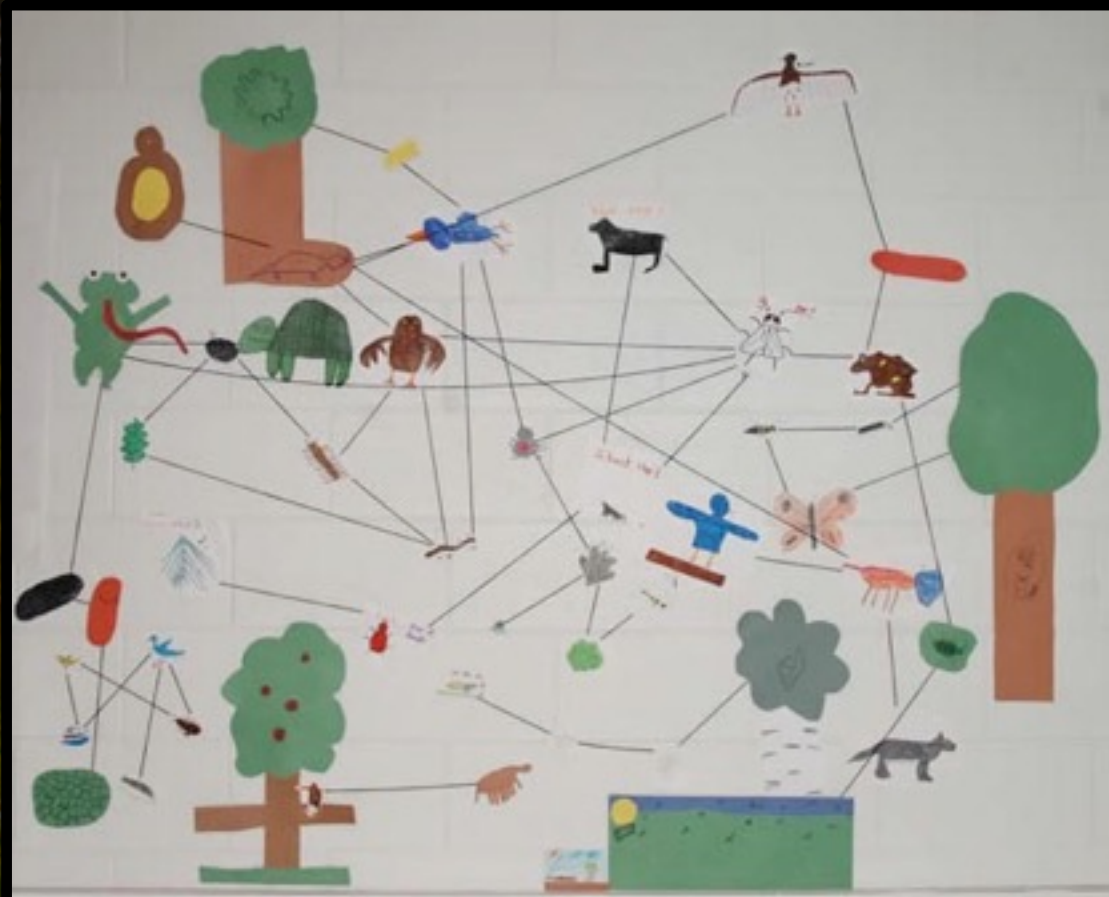
Species interactions networks

Diversity

Generalist vs. Specialist predators

Owl pellets

Scientific specimens, Data collection



Habitats

Organism's environment

Functional Diversity

Organism's role (e.g., grazer, shredder, predator)

Stream macro-invertebrates

Organism's adaptation, Species identification, Taxonomy



Stonefly

Biodiversity

Across taxonomic levels

Collections

Identification, communication

Habitat Networks

Organisms connect habitats



Biodiversity

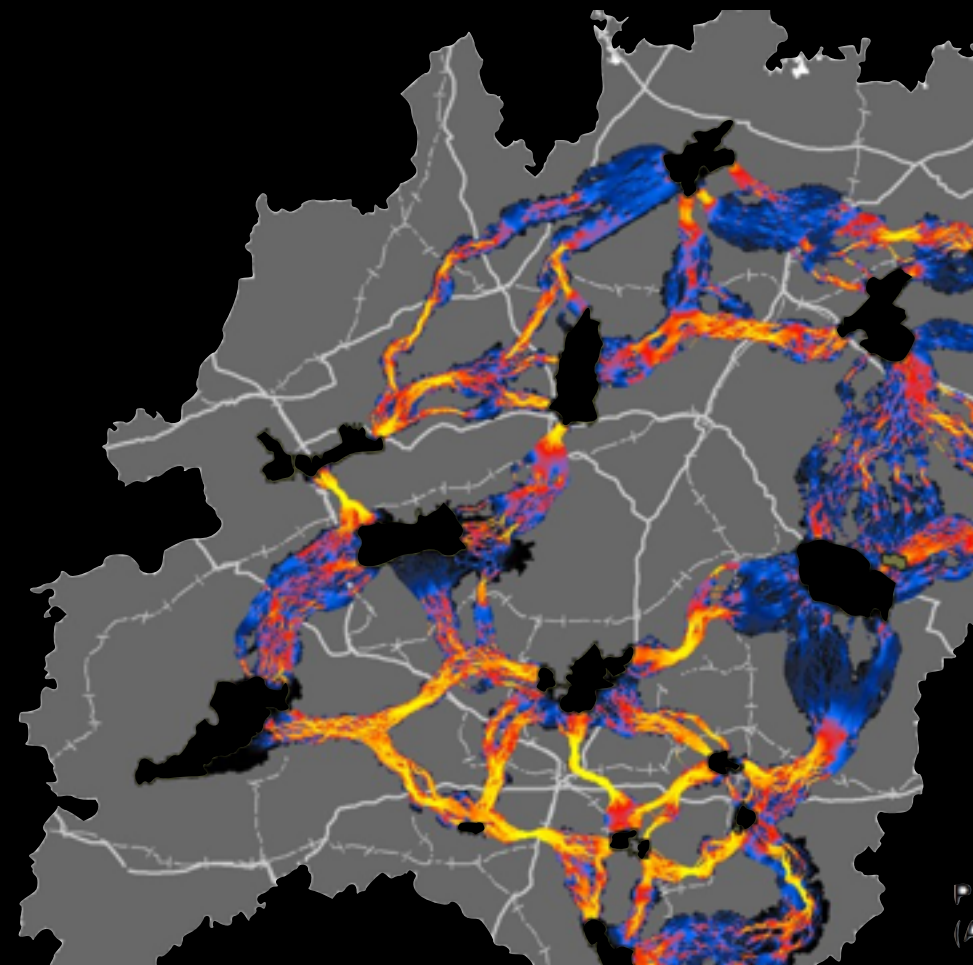
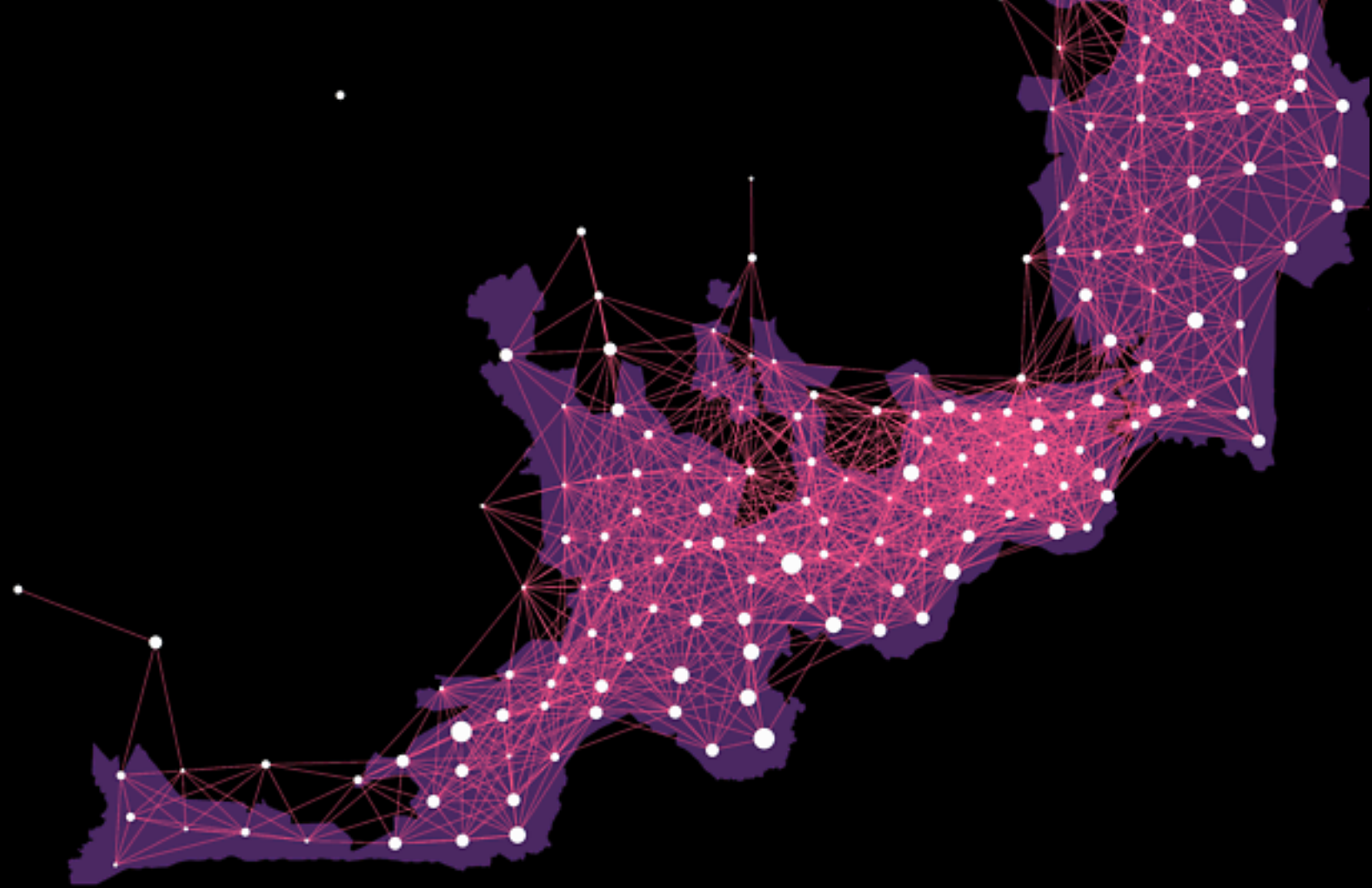
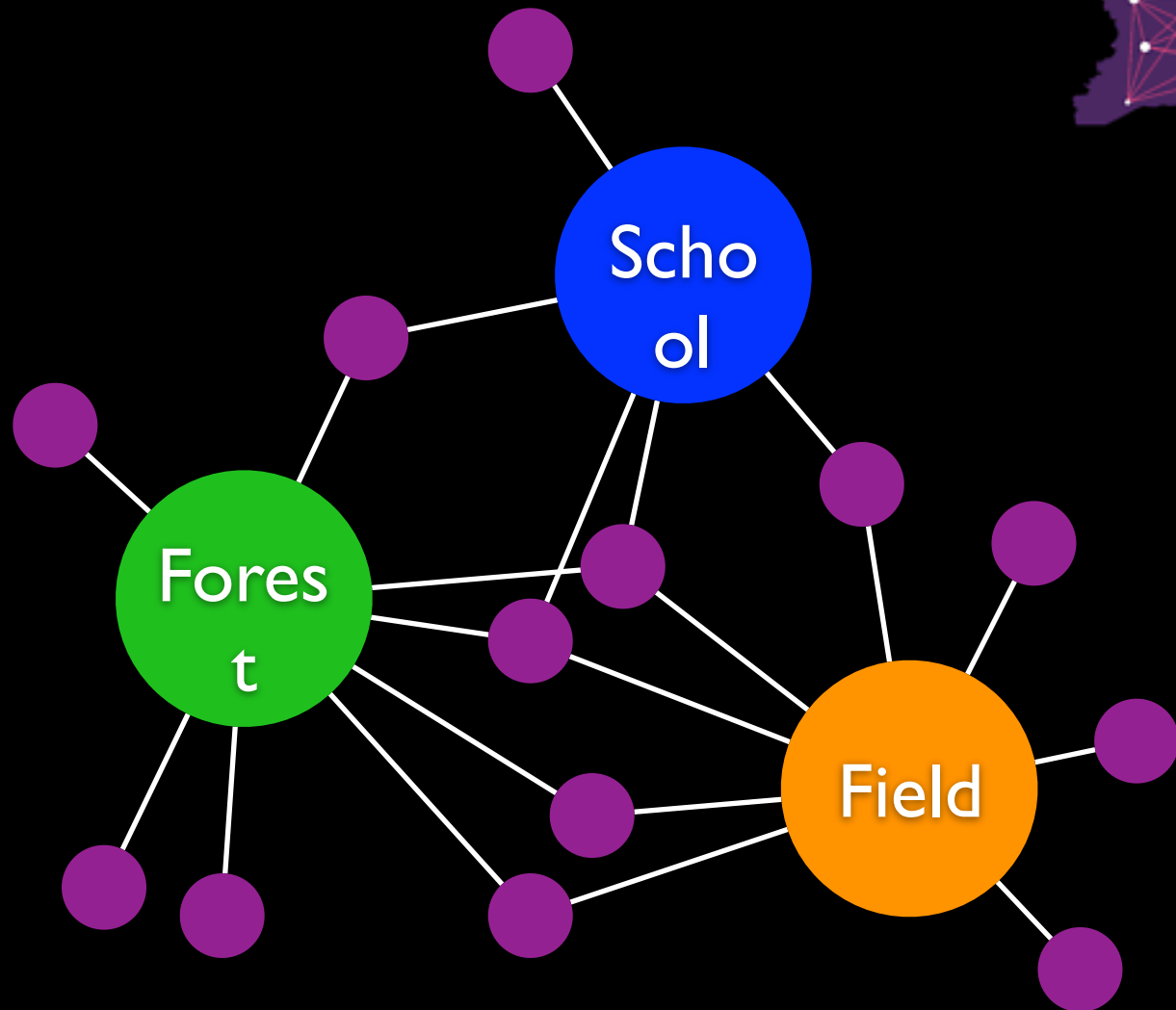
Across taxonomic levels

Collections

Identification, communication

Habitat Networks

Organisms connect habitats



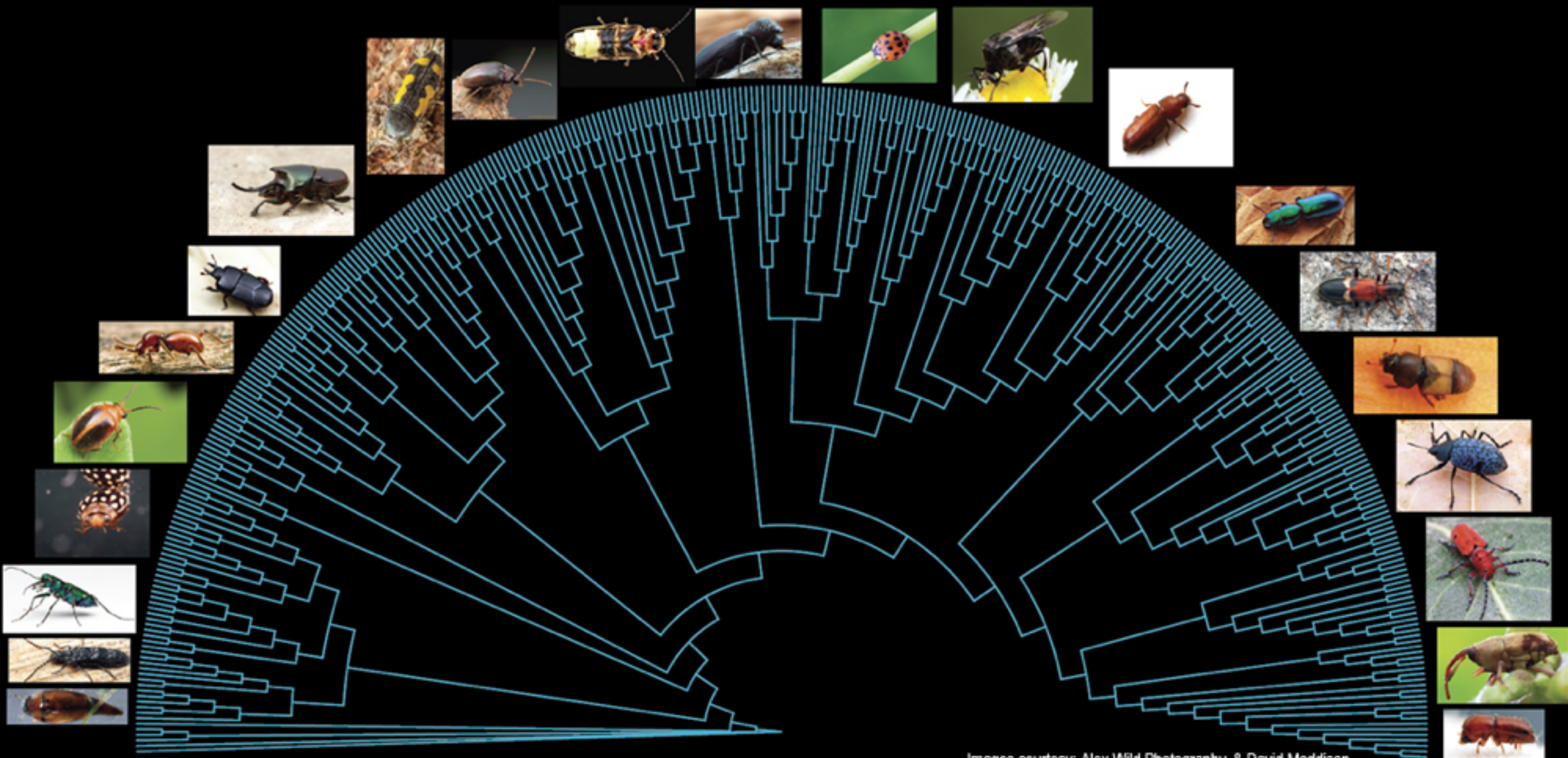
Arthropods*

Insects

Arachnids

Crustaceans

etc...



Images courtesy: Alex Wild Photography, & David Maddison

****Segmented invertebrates with jointed appendages***

Arthropods*

Insects

Arachnids

Crustaceans

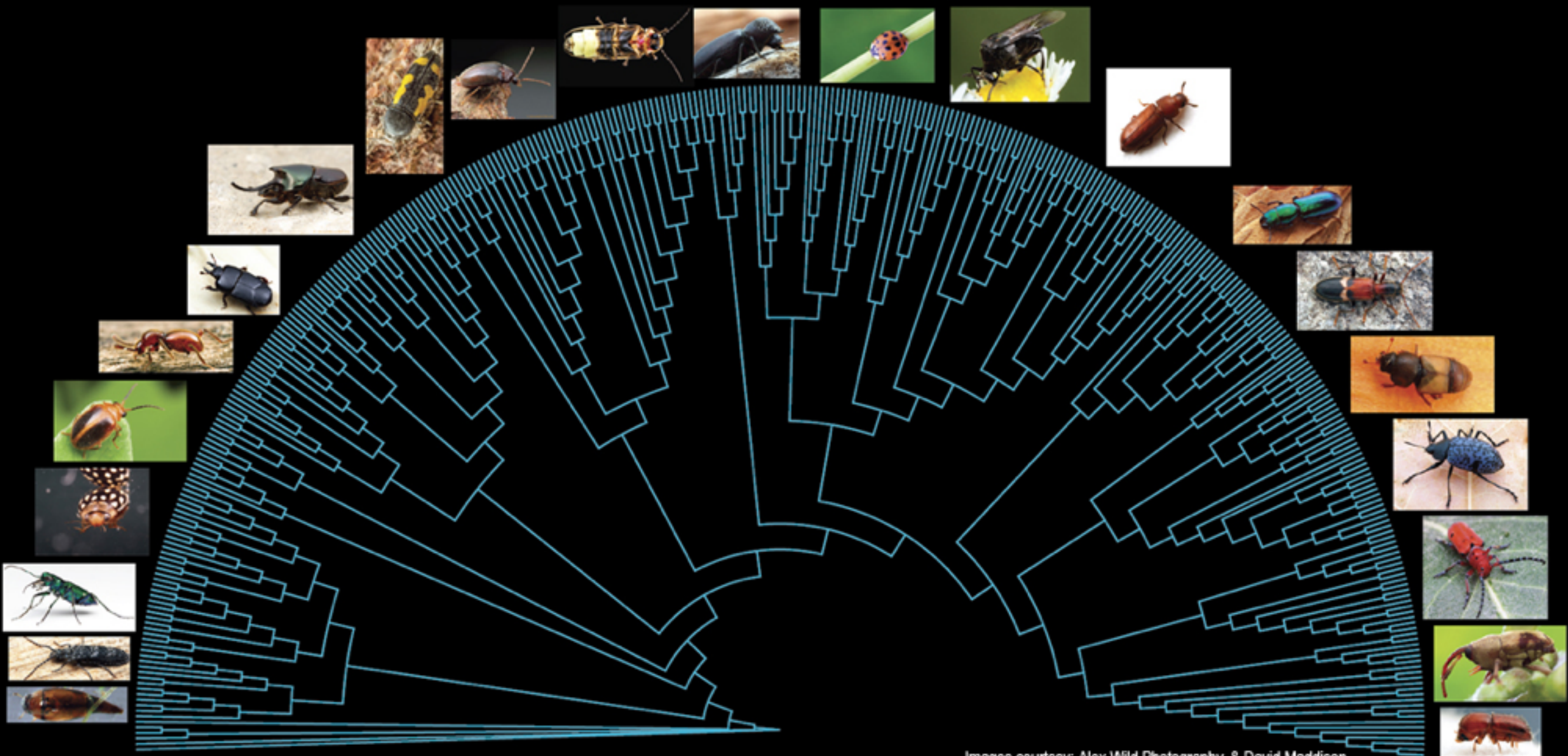
etc...

Lesson 1 - Sampling Biodiversity

Lesson 2 - Collection and Preservation

Lesson 3 - Classification

Lesson 4 - Data Analysis



Images courtesy: Alex Wild Photography, & David Maddison

**Segmented invertebrates with jointed appendages (phylum)*

Arthropods*

Insects

Arachnids

Crustaceans

etc...

Oregon State Arthropod Collection

<http://osac.oregonstate.edu>

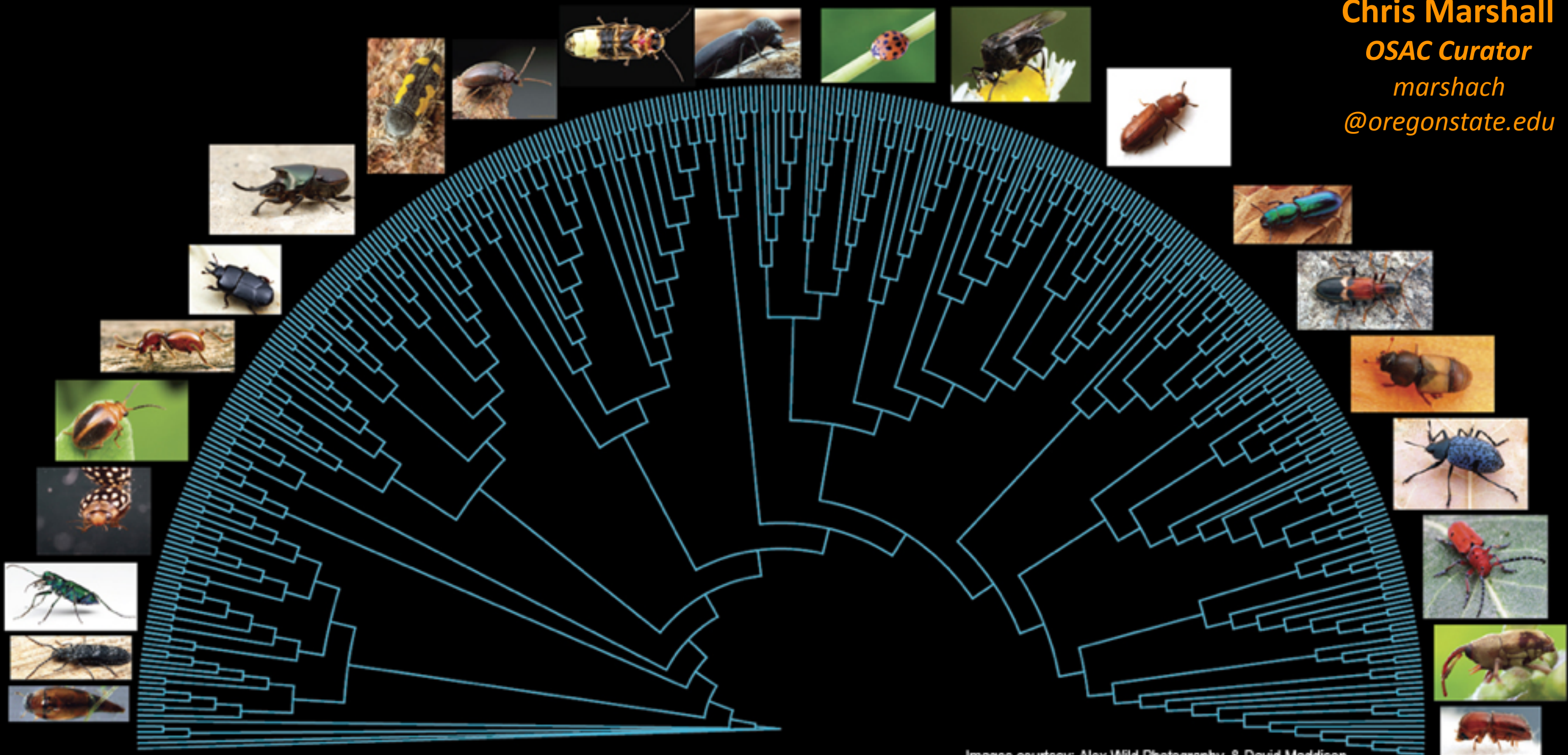


Chris Marshall

OSAC Curator

marshach

@oregonstate.edu



Images courtesy: Alex Wild Photography, & David Maddison

***Segmented invertebrates with jointed appendages (phylum)**

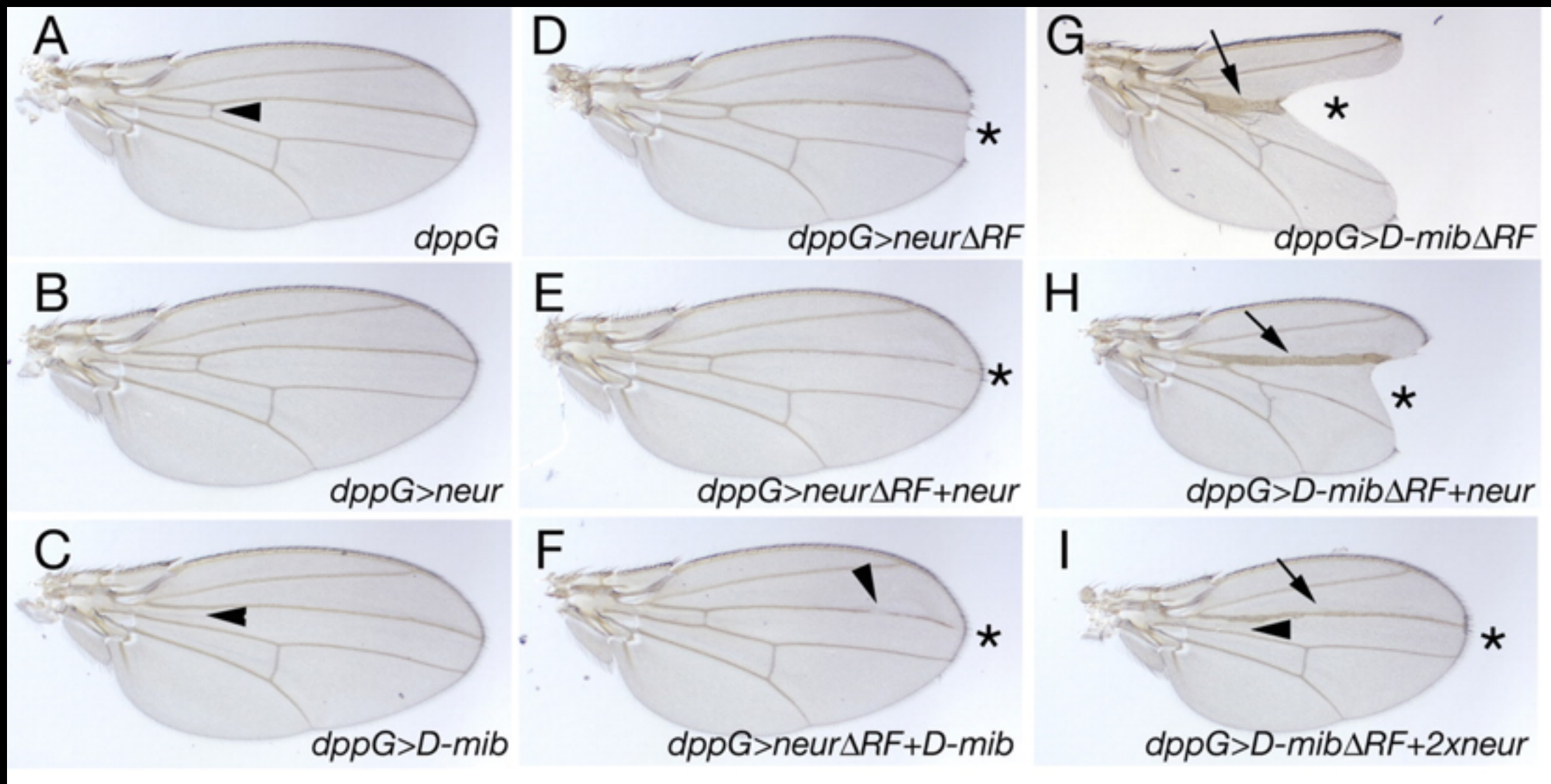
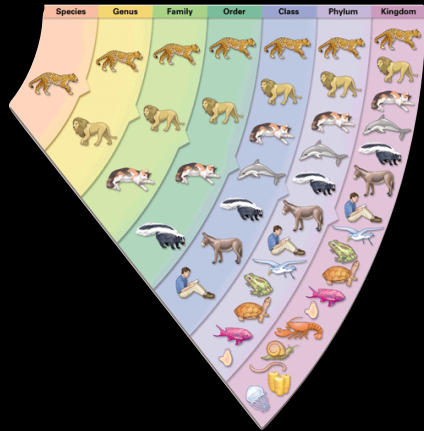
Biodiversity

Across taxonomic levels



Biodiversity

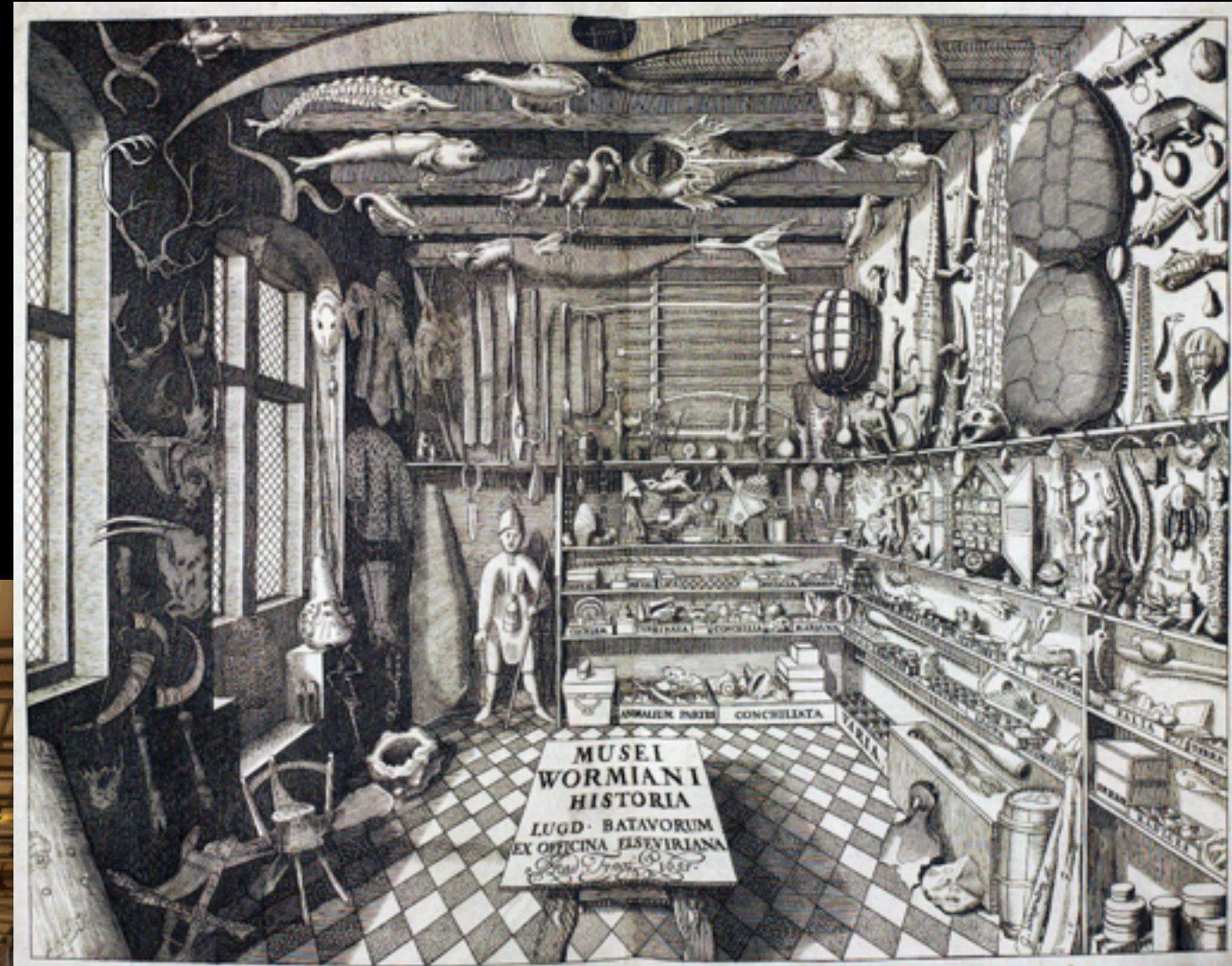
Between individuals of same species



Collections

*Identification, communication
preservation & curation*

Not cabinets of curiosity



Collections

Preservation & curation

Reference for identification & communication

Ethical considerations

Taxonomy is a science and an art (and changes all the time!)



Key Objectives & Concepts

Lesson 1 - Sampling Biodiversity

Organisms exhibit variation

Biodiversity = variation at all levels of biology

Observation and sampling techniques

Prediction and data collection

Lesson 2 - Collection and Preservation

Many ways to group (identifying 'useful' features)

Taxonomy reflects shared ancestry

Data collection & keeping field and lab notes

Lesson 3 - Classification

Many ways to group (identifying 'useful' features)

Taxonomy reflects shared ancestry

Organisms are given names for scientific utility

Scientific communication

Contributing to science (OSAC specimen)

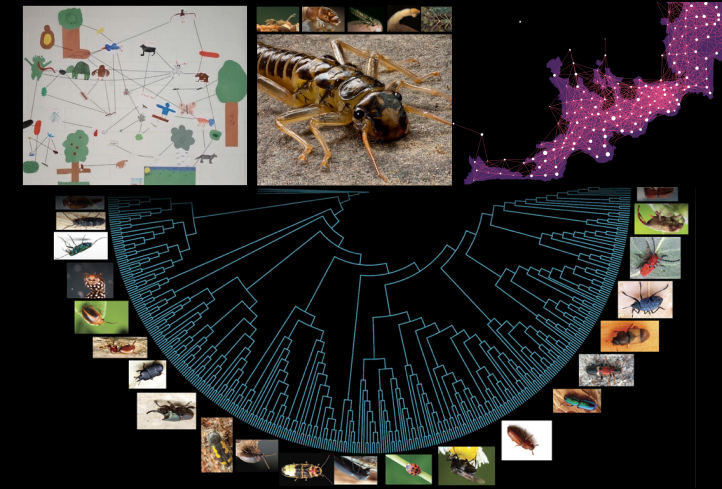
Lesson 4 - Data Analysis

Biodiversity = variation in numbers of organisms

Biodiversity varies across habitats

Species connect habitats (generalists/specialists, movement)

Data analysis and visualization



Habitat Networks

Organisms connect habitats

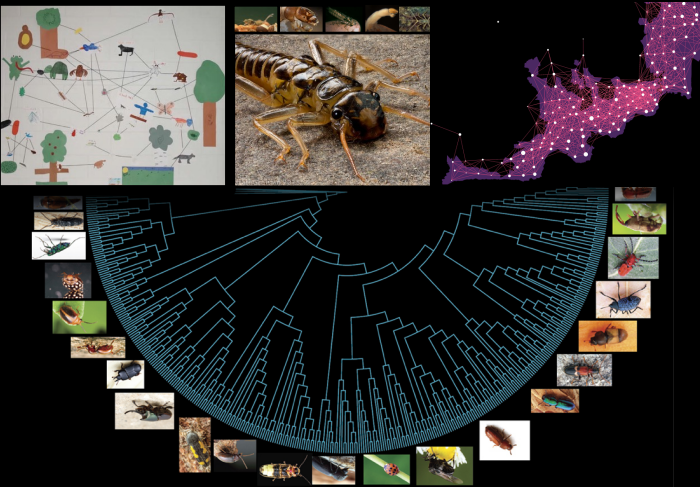
Habitat generalists vs. specialists

Not all organisms move equally

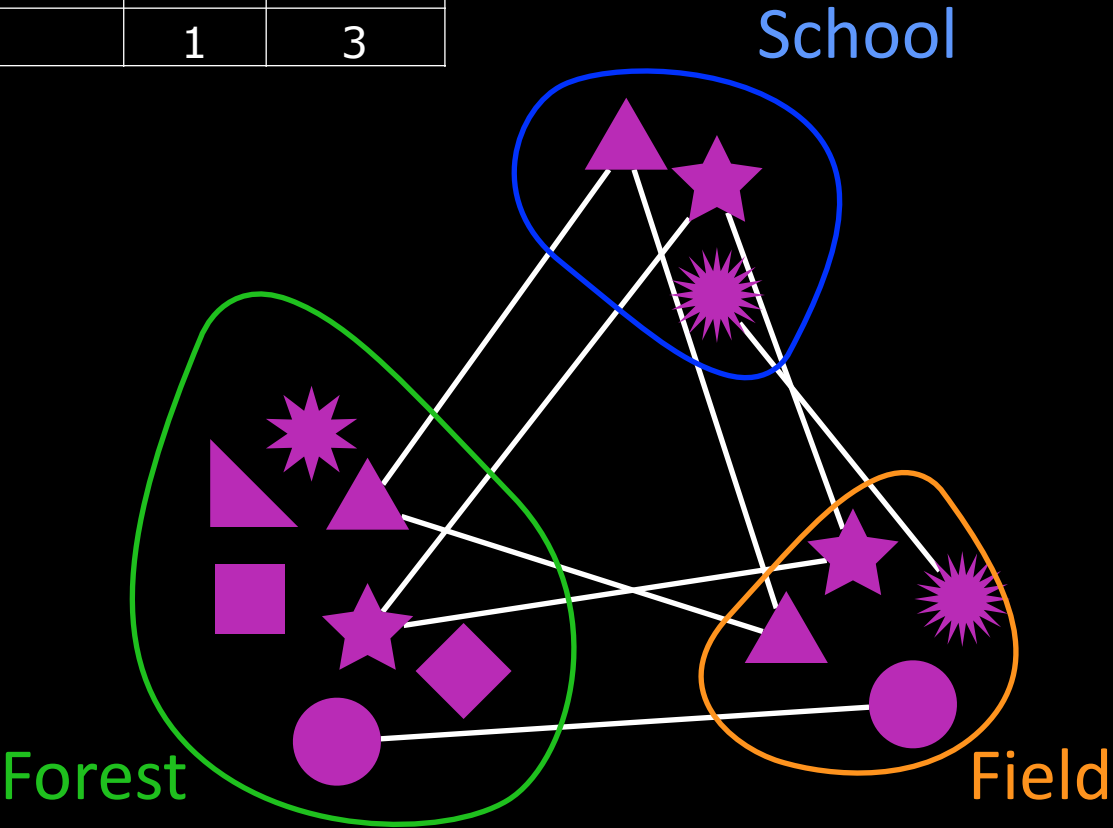
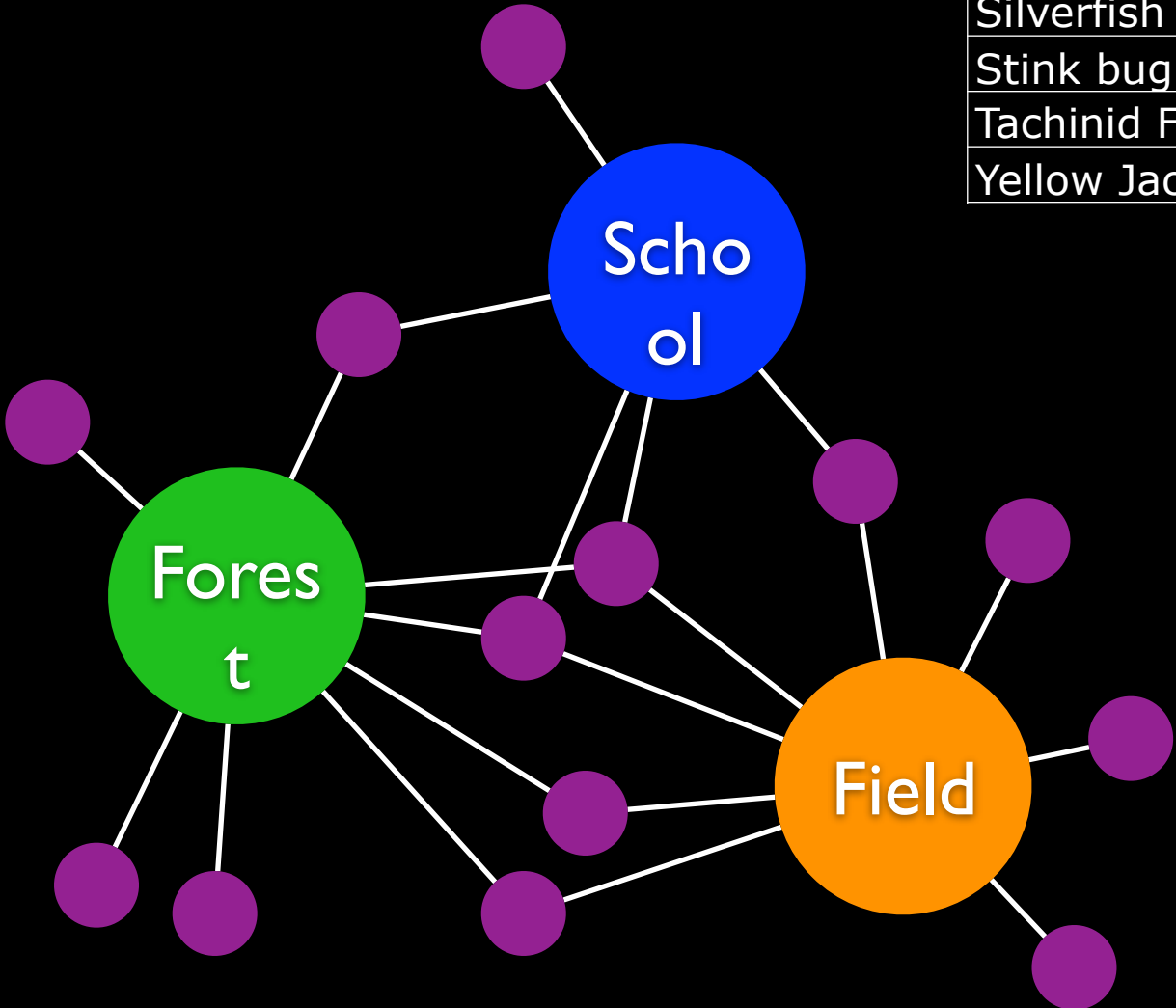
Habitat configuration

Barriers to movement

Species associations



Species	Forest	Field	School
Alder Borer	15		
Bald-faced Hornet		6	
Burying Beetle	1		
Caterpillar	6	5	2
Cockroach	5		
Cross Orbweaver	3		
Earwig	5	5	
House centipede			
Ipsilon Dart Moth	3		3
Isopod	1	5	3
Pavement Ants			2
Silverfish			
Stink bug	8	2	
Tachinid Fly	3	1	1
Yellow Jacket		1	3





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Thanks!
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