

*Data use and quality
as related to*



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Fossil Specimens 0's and 1's - Databases, Standards, & Mobilization



Fossil Insect Collaborative TCN: A Deep-Time Approach to Studying Diversification and Response to Environmental Change



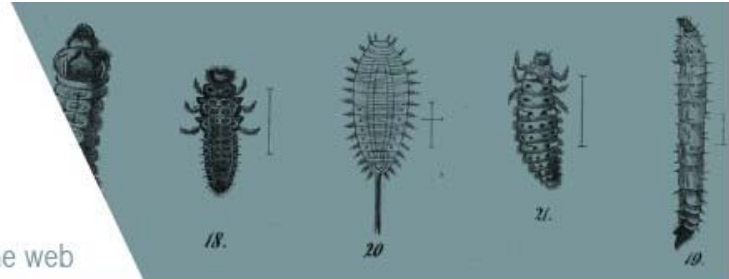
NSF DBI #1305066



Digitize and make available all the major collections of fossil insect specimens in the United States

- understand responses to environmental change and patterns of biodiversity through time
- phylogenetic reconstruction, evolution of morphological characteristics, and studies of overall patterns of diversification in deep time





News

Entomological Collections Network

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Featured Fossils

(PAL576494.11701452)



Latest Comments

 [Microgastrinae](#)
- KATJA SELTMANN

Featured Institution



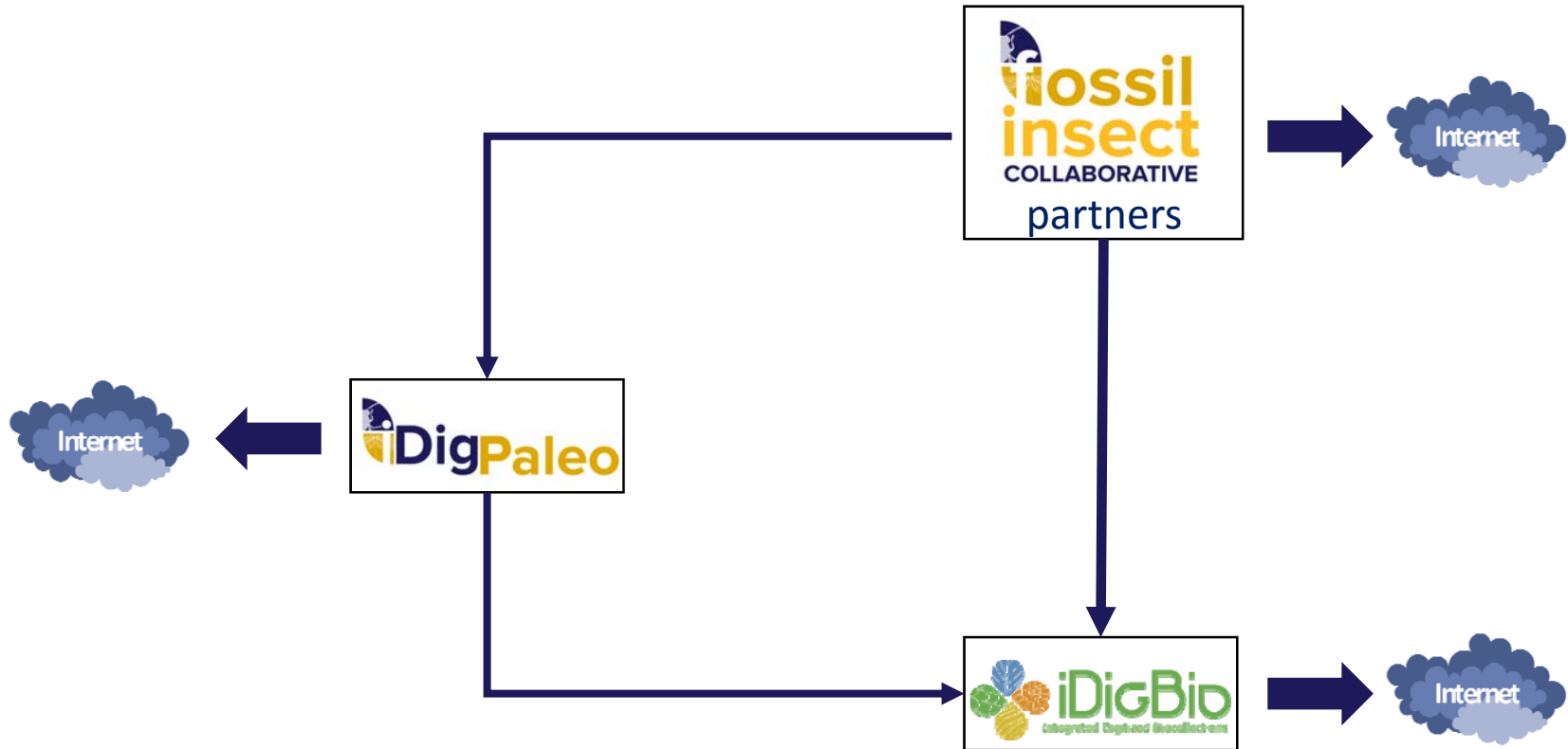


**fossil
insect**
COLLABORATIVE

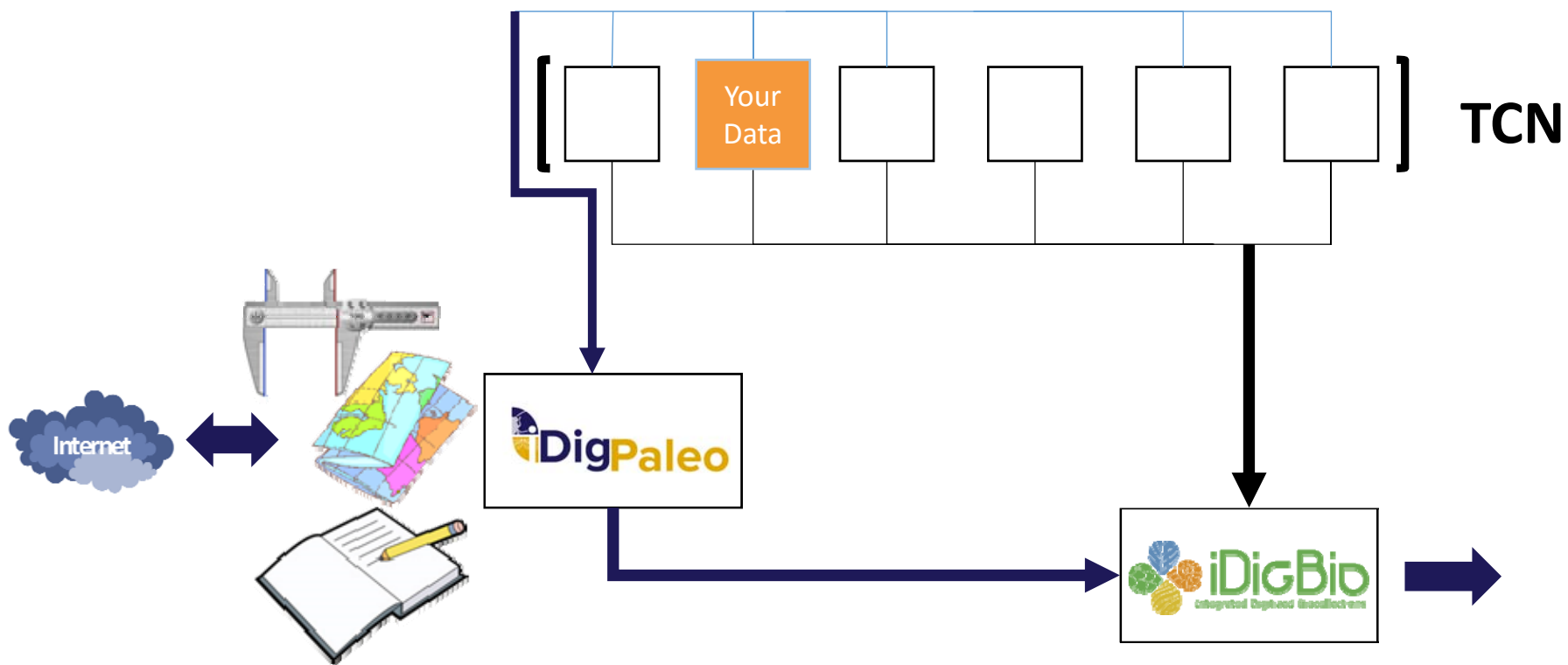
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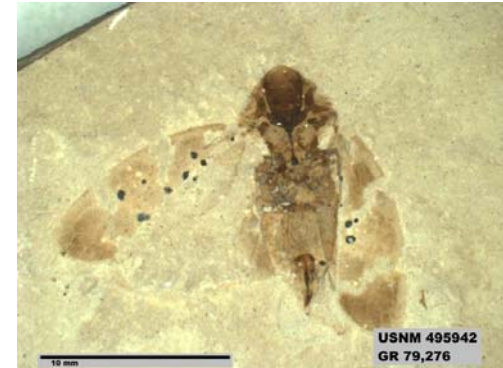


iDigPaleo



iDigPaleo



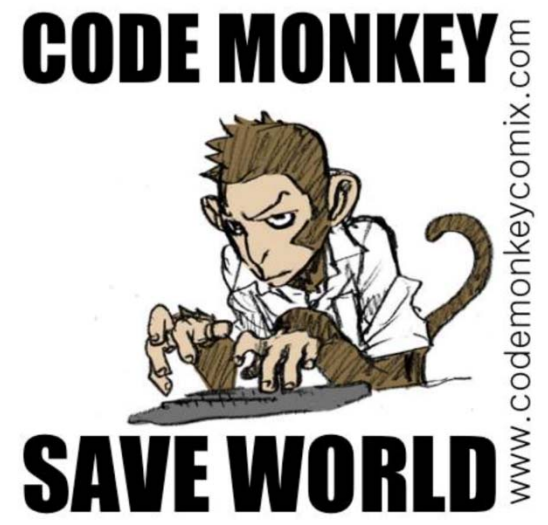


fossil specimen data, georeferenced locality data, and specimen images

Minimum requirements:

- Set of data standards which are community approved
- Established relational database within the institution*
- Darwin Core data served by IPT
- Strong leader(s) pushing standards/agenda/keeping cohesion

* Ideally managed by a bioinformatics person/office



Data problems

- *Getting it from partners*
- Darwin Core is useful and IPT helps with formatting – however:
 - Expression of Darwin Core differs
 - Missing data
 - Metadata in weird places



1) Taxonomy

- Paleo taxonomy is subjective by nature
- Taxonomic hierarchy is non-standard
 - Multiple schema
 - Schema with exceptions

2) Images

- Non-uniform quality (photography and linking)
- Linking standards
 - Naming protocol w/specimen #
 - Storage (type and sustainability)





3) Localities

- Legacy data – UTM/USPLSS
- Stratigraphy standards
- Need georeferencing - standard exists (Wieczorek et al., 2004)
- Transparency in reporting









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4) People/Administration

- Different levels of administrative support
- Different levels of bioinformatics support



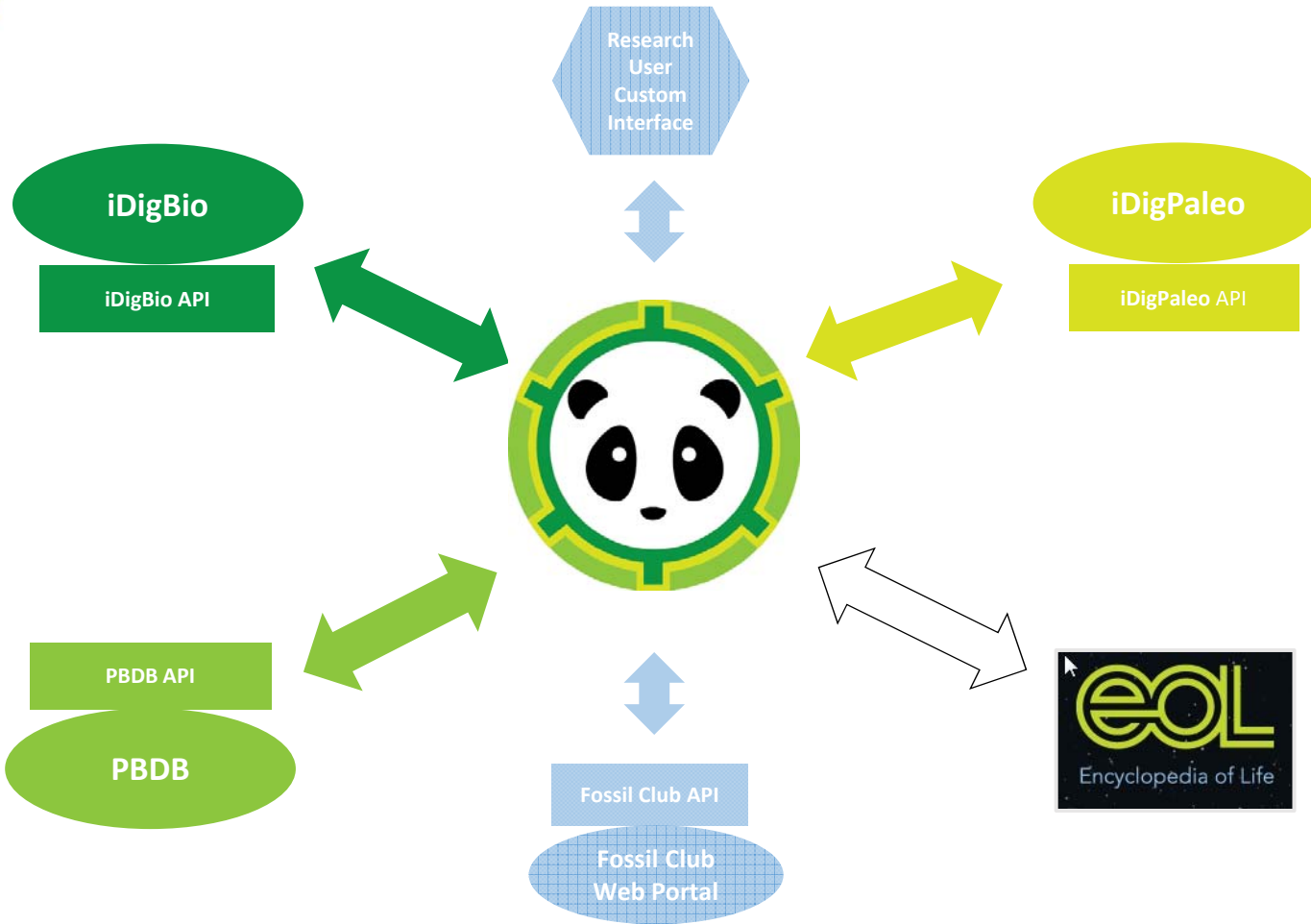
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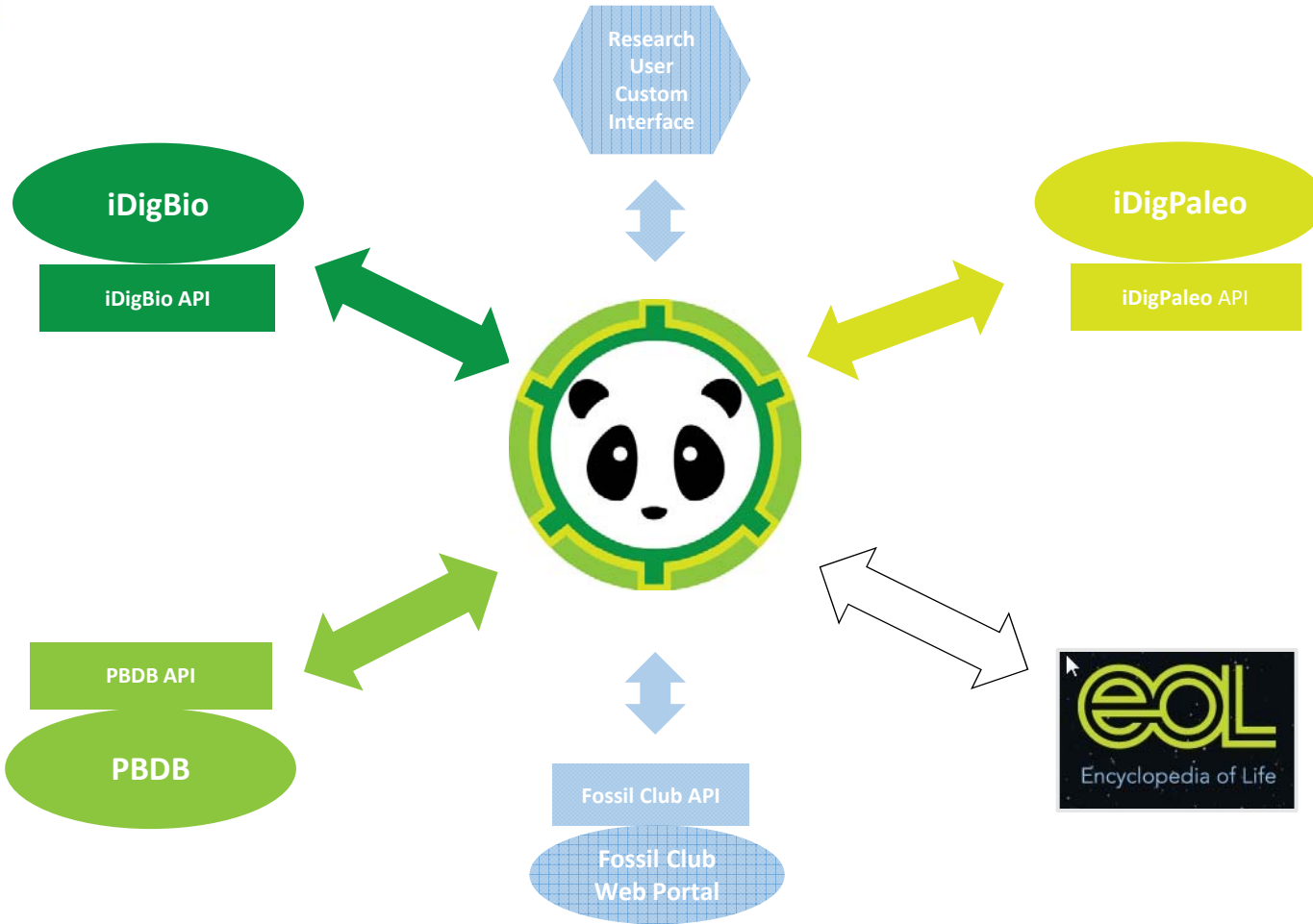
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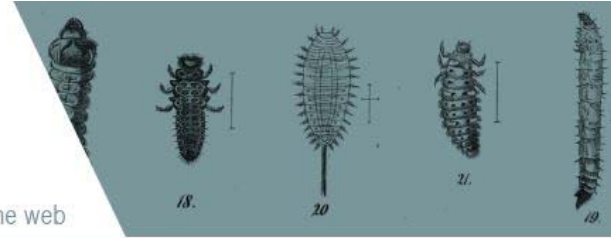
How about *data use*?



NSF ICER # 1540902







PAL58421711708393

Fossil Deposit: Green River Fm



PAL58421611708392

Fossil Deposit: Green River Fm



PAL58421511706391

Fossil Deposit: Green River Fm



PAL58421211708388

Fossil Deposit: Green River Fm



PAL58421111708387

Fossil Deposit: Green River Fm



PAL58420911708386

Fossil Deposit: Green River Fm



PAL58147711706016

Fossil Deposit: Green River Fm



PAL58143911705977

Fossil Deposit: Green River Fm



PAL58109811705636

Fossil Deposit: Green River Fm



PAL58099811705535

Fossil Deposit: Green River Fm



PAL58098711705524

Fossil Deposit: Green River Fm



PAL58097711705514

Fossil Deposit: Green River Fm

FILTER BY

SOURCE

Harvard Museum of Comparative Zoology

Illinois Natural History Survey

Sam Noble Oklahoma Museum of Natural History

Smithsonian National Museum of Natural History

Virginia Museum of Natural History

Yale Peabody Museum of Natural History

HAS MEDIA

Has media

Does not have media

FOSSIL/MODERN

Fossil

Modern

COMMON NAME

Antlike leaf beetles

Ants

Ants, bees, and wasps

Ants, bees, narrow-waisted hymenopterans, and true wasps

Aphids

Arachnids

Arthropods

[and 97 more](#)

PERIOD

Cambrian

Campanian

Carboniferous

Thank you.



EARTHCUBE