

Take the Curator Challenge!

Overview: Grades 6-8

Specimen labels are important in natural history collections in that they provide valuable information regarding identification of a species along with other data such as where a specimen was found, when it was found, and by whom.

Objective: Students will come to understand how to read, analyze, and interpret data from a specimen collection label.

Common Core Standards: English Language Arts Standards » Science & Technical Subjects » Grade 6-8

CCSS.ELA-LITERACY.RST.6-8.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

CCSS.ELA-LITERACY.RST.6-8.9

Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

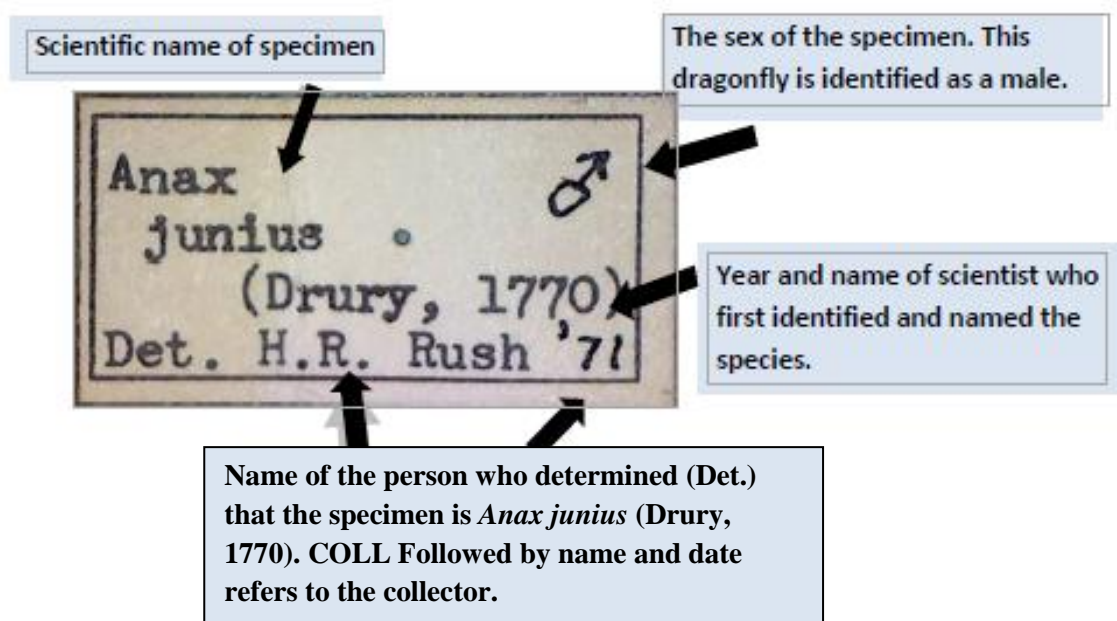
NM-MEA 6-8.1

Understand Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (Cooperative Agreement EF-1115210). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



See below the various parts that might be found on a label.



Labels may also include what is called an identifier number which is like a catalog number and enables scientists and researchers to easily locate the specimen in a collection. Other information that may be found is geolocation information which tells us where the specimen was found.

For some practice in understanding and working with geolocation coordinates students can learn more here: <https://www.learner.org/jnorth/tm/mclass/sl/2/0.html>



Activity Instructions:

1. Cut out the below cards and specimen labels. Cards need to be in color and will work best if printed on cardstock.
2. Ask students to read the labels and based on information provided have students match with the correct collection card. Students will need to look at data such as geolocation, scientific name, description of specific habitats, or other data that might provide clues as to what a specimen card might belong to.

More to specimens than meets the eye

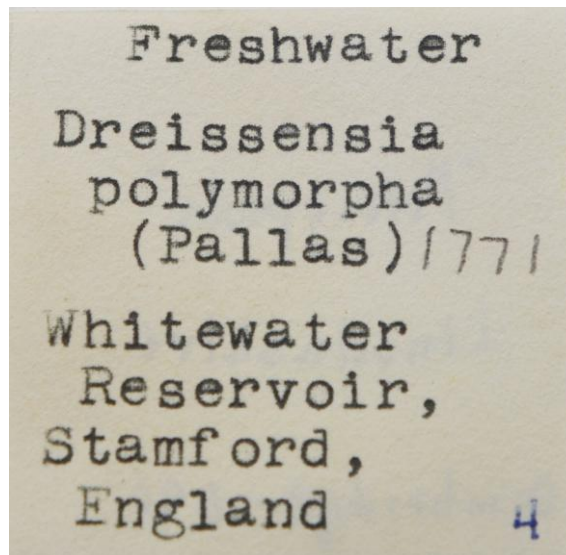


3. When time is up students can launch the *Libraries of Life* app and scan the picture on the cards to view the 3-D scene and check their answers. The group or person with the highest number of correct matches wins!

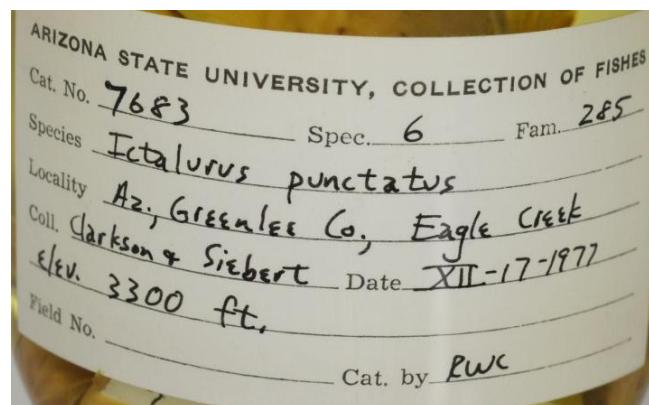
Note: Not all cards will have a label.

4. After all of the cards have been matched have students do the section called *Working with Data*.

1.

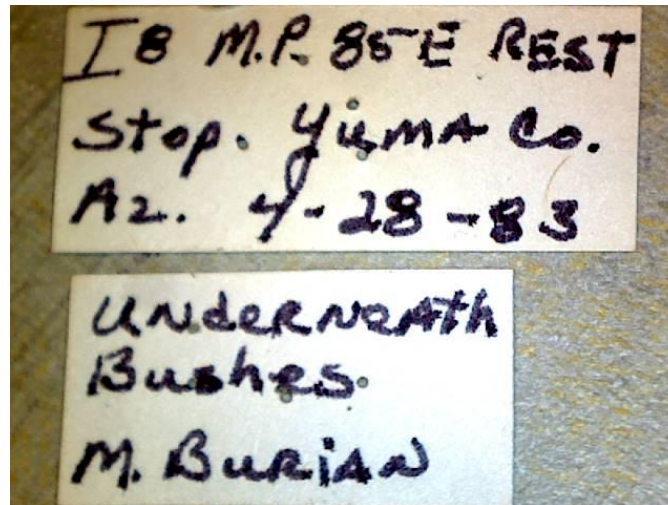


2.





3.



4.



5.





Cladina rangiferina

(L.) Nyl.

Canada: Quebec

adjacent bog near Lennoxville

Habitat: on soil

Coll.: T.H. Nash III # 2974

6 Nov 1968

Det.: T.H. Nash III

6.

Herbarium of Yale University

Plants of Connecticut

Coll #: 148 Family: Campanulaceae

Scientific name: *Lobelia cardinalis* L.

Common name: Cardinal flower

**Locality: East Rock Park, New Haven: 200 yards below the
covered bridge on Mill River.**

**Habitat: At waters edge. Wet, marshy, and clayey soil. Full
shade.**

Comments: Flowers red.

Collector: Martha Hill

Date: 20 Aug. 1985

7.



8.

DBG 28007 G 435
Lecestrum floriforme
Place: China Flat Park
Ventura co., CA
Date: Mar. 16, Collector: Robert
1996 Chapman
Sam Mitchel Herbarium of Fungi Denver Botanic Gardens

9.

FL: Lee Co
Lehigh Acres
17 November 1999: F
Coll.: J.R. Brushwein
ex. Fabaceous tree, probably
Tamarind



10.

VIRGINIA
Dismal Swamp
nr. L. Drummond
IX-5-6-1970
A. B. Gurney

HERBARIUM OF THE UNIVERSITY OF CALIFORNIA
ALGÆ OF CALIFORNIA
Pelagophycus porra (Leman) Setchell
Data lost, but probably off San
Diego.
Coll. Crandall, Aug. 1912

11.

PLANTS OF FLORIDA FRANKLIN COUNTY

SARRACENIA LEUCOPHYLLA Raf.



Locally common in loamy sand of wet savannah with
Aristida palustris, Eryngium integrifolium, and
Linum floridanum v. chrysocarpum

Loran C. Anderson No. 10900 9 September 1987
HERBARIUM OF FLORIDA STATE UNIVERSITY

12.



Collection Cards

**Libraries of Life**
more to specimens than meets the eye...





Photo credit: Jack Kallmeyer Courtesy of drydredgers.org

Brachiopod
Hebertella occidentalis


augmented reality

bring this image to life: see reverse for details

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Channel Catfish
Ictalurus punctatus


augmented reality

bring this image to life: see reverse for details

More to specimens than meets the eye



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Photo Courtesy Bob Chapman

Daisy Earthstars

Geastrum floriforme

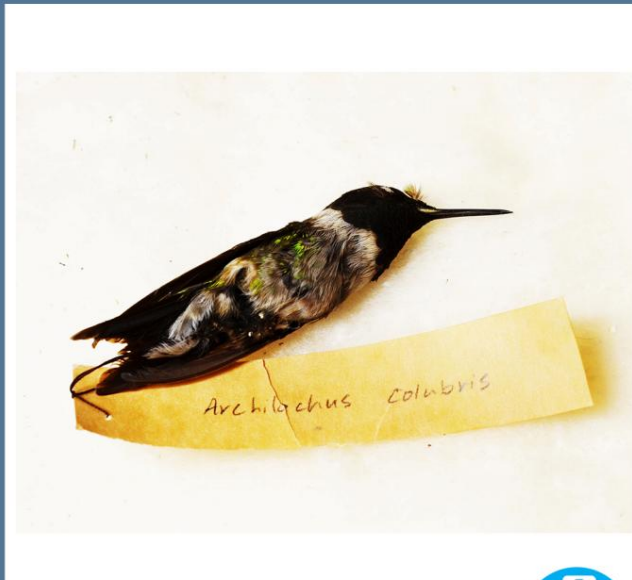


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Archilochus colubris

Ruby-throated Hummingbird

Archilochus colubris



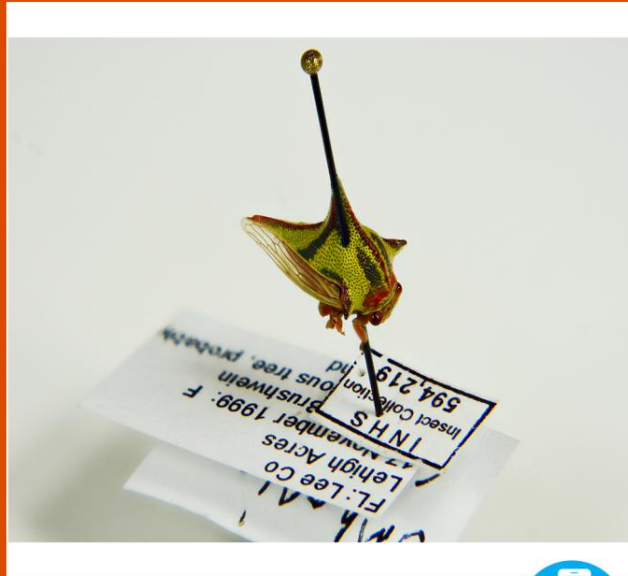
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Thorn Bug

Umbonia crassicornis



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White-topped Pitcher Plant

Sarracenia leucophylla



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Greygreen Reindeer Lichen

Cladonia rangiferina



bring this image to life: see reverse for details



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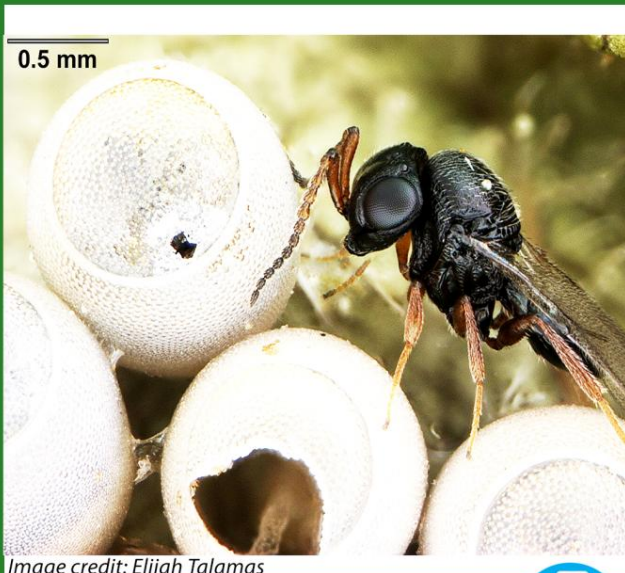


Image credit: Elijah Talamas

Stink Bug Parasitoid

Trissolcus euschisti



bring this image to life: see reverse for details

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Photo Credit: U.S. Fish & Wildlife Service

Zebra Mussel

Dreissena polymorpha



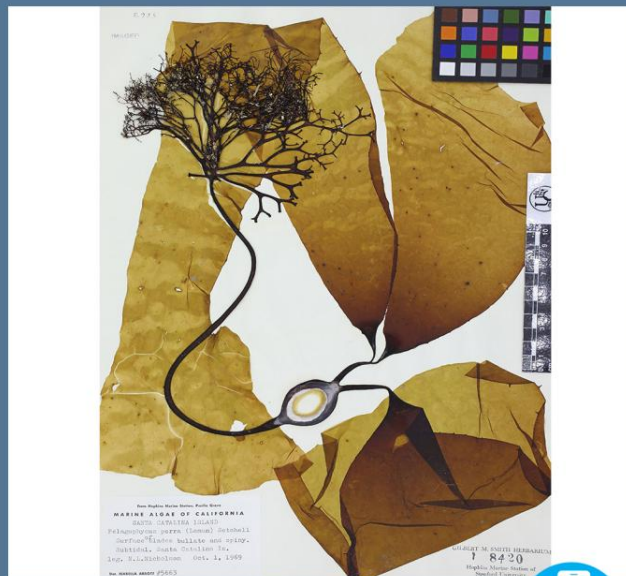
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reality

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Elk Kelp

Pelagophycus porra



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With permission from the Colorado University Museum

Tsetse Fly

Glossinidae



bring this image to life: see reverse for details



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more to specimens than meets the eye...



Carolina Mantis

Stagmomantis carolina



bring this image to life: see reverse for details

September 1987
ORSTV



augmented
reality





Working with Data

What can we learn from data? Working individually or in groups students can research on the Internet and report back their findings as they respond to the following questions.

1. Which of the insect specimens might be found on a Tamarind tree? What does this tell us about this insect?
2. Enter the following coordinates 26.9091 S 32.3155 E into Google map. Where is this and what specimen was found at this location?
3. What insect was collected by a method called a beating sheet? To read more about how beating sheets are used go to following link.
<http://mississippientomologicalmuseum.org.msstate.edu/collecting.preparation.methods/Beating.sheet.htm#.VgR2YMtViko>
4. What species was first identified by a person named Pallas in 1771?
5. Who collected the Elk kelp specimen and in what year?
6. Name one other plant that was found with the White-tipped pitcher plant. Why might it be important for a collector to include observations of other organisms and species in a collection area?



Curator Challenge Answers:

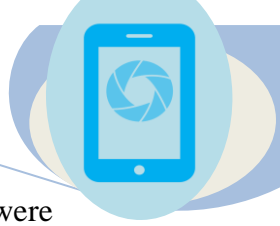
1. Zebra mussel
2. Channel catfish
3. Earth-boring scarab
4. Brown marmorated stink bug
5. Tsetse fly
6. Lichen
7. Cardinal flower
8. Daisy Earthstars
9. Thorn bug
10. Carolina mantis
11. Elk kelp
12. Pitcher plant

Working with Data Answers.

Working with Data Answers.

1. The thorn bug or *Umbonia crassicornis*
2. The tsetse fly specimen was found in the Republic of South Africa at the Ndumo Game Reserve.
3. The marmorated stink bug (*Halymorpha halys*) was collected with a beat sheet in Oregon.
4. The zebra mussel *Dreissensia polymorpha* was first identified as a species in 1771 by Pallas.
5. The elk kelp (*Pelagophycus porra*) specimen was collected by an individual named Crandall in August 1912.
6. Some other plant species that were found with the white-topped pitcher plant (*Sarracenia leucophylla*) may include *Aristida palustris*, *Eryngium integrifolium*, and *Linum floridanum* v.

More to specimens than meets the eye



chrysocarpum. All of these species were found within the same habitat where conditions were favorable for them to thrive.



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