iDigBio Portal Activity

(Adapted from the module "Thinking Like a Scientist" created by Kathryn Green & Molly Phillips)

What you need: A computer with internet access. **Goal:** To examine the natural history data of the Red-cockaded Woodpecker in an online aggregated data portal (iDigBio).

First:

a. Open an internet browser (e.g., Chrome, Firefox, Safari).
b. To find the scientific or Latin name (the binomial name or the combination of the organism's genus and specific epithet) for the Red-cockaded Woodpecker, we recommend http://eol.org/ (Encyclopedia of Life).
c. Type in *Red-cockaded Woodpecker* into the search bar and click **Go**.
d. Copy the scientific name (The Latin name displayed above the common name – it is in italics)

Next:

a. Go to https://www.idigbio.org/portal.
b. Search for the records of the Red-cockaded Woodpecker by typing *Picoides borealis* (or by pasting your EOL search results) into the search box **ScientificName** and hit enter**.**
c. Select the box **Must have a map point** so you will only look at records that have GPS coordinates (they are the points displayed on the map).
d. Open the first record from your search by scrolling down past the map and clicking on the blue **View** on the right side of the first row.
e. When you click on a specimen record a new window will open. The top of the window will contain a summary of the record. If you scroll down you can find all of the data associated with this particular museum specimen.
    i. Look at what kinds of data scientists regularly collect. Under "Data", there are five subheadings.
f. Go back to the browser tab with your original search. Locate the data view tags "List", "Labels", "Media" and "Recordsets". Click on them all to see what they display.
g. Go to the Media tab and click on the first media record. Note how the data section is very different from the specimen record. Could you use this media record in the classroom (hint: look for rights information).
h. Go back to the browser tab with your original search again. Click on the **Columns** button at the top right of the list view and add a new field to your search results.

Then:

    a. Go back to the first portal tab that contains your search results for *Picoides borealis* and scroll up to the map.

    b. The map displays individual locations where museum specimens were collected in the field. You can zoom into North America by using the **+** button at the top right of the map and by clicking on the map and moving the view to center North America.

    c. Click on a point on the map. A pop-up will show the data associated with that map point (there might be more than one specimen for each point!).

    d. Now look at how all the points on the map are distributed. This is a great way to teach about outliers and data quality. For example, why is there a point in the ocean by Africa?

    e. Create an image of your map by clicking on the **Camera Icon** at the top right side of the map.

Finally:

    a. You can search for multiple species. For example try searching for records of the Longleaf Pine by hitting **Enter** after *Picoides borealis* and typing *Pinus palustris* in the line below in the field **ScientificName.**

    b. Click on the button **add EOL Synonyms**. This will add records that have slight variations in the name (such as a subspecies), or are still referenced under outdated taxonomy. Note the birds are in one color, and the plants are in other colors on the map.

    c. You can also add a field to search. Try this by clicking on the **Add a field** drop down menu bar. You could filter by higher taxonomy, collector, state, etc. (You may want to hit the Clear button before you try a new search.)

    d. Finally we will download the data. Visualizing the data in the iDigBio portal is just scratching the surface of the potential uses for these collections data. As a final activity try downloading a search by clicking on the **Download** tab. Enter your email and hit enter. Check your email. You should receive a link that opens a file containing several CSV files. Try opening the *occurrence* file. Take a look at the spreadsheet's organization. Can you find the field(s) that contains information on the when the specimens were collected?

Thinking Like a Scientist