

Teacher's Guide for iNaturalist Species Bingo — Plant Diversity and Evolution class by Lena Struwe

Note on age levels: iNaturalist is only suitable for students over a certain age – younger children will not be able to handle the various settings and rules and observation rules on their own. For children's activities, use Seek instead, a phone app that gives you immediate feedback about what you are looking at. See the Teachers Guide on iNaturalist for more on this topic.

Learning Goal: To learn 50 common species – 25 common wild plants (mostly weeds) and 25 ethnobotanical plants, while practicing 'seeing' everyday biodiversity around you, use iNaturalist as a biodocumentation tool, and interact with other citizen scientists worldwide. The results are entered onto two bingo sheets of 25 species each, and you get extra credit for the number of bingo rows you manage to get from your observations.

Preparing the project

1. **Review the Student Instructions, Bingo Sheet, and Grading Rubric** (the other files).
2. **Read the Teacher's Guide on iNaturalist:** <https://www.inaturalist.org/pages/teacher's+guide> and there is also a **Teacher's Forum for iNaturalist:** <https://forum.inaturalist.org/t/using-inaturalist-with-students-especially-remotely/10752>
3. **If you don't have an iNaturalist account, get one, and get familiar with using it.** There is a bit of an initial learning curve, and as the teacher you will need to know how to use iNaturalist and troubleshoot problems, so don't do this project without having tested out iNaturalist first on your own. (This is my suggestion, on the other hand, we all start as beginners at some point, and you might do fine learning together with the students).
4. **Set up a class project in iNaturalist.** Like this, using a computer, not a phone app:
Go to *Community* tab on top, then select *Projects*:
Click on *Start a Project*:
On the *Welcome to Projects!* page, you see Collection Projects and Umbrella Projects, but do not select any of those. You want a Traditional Project, which is at a tiny link at the bottom, copied here: https://www.inaturalist.org/projects/new_traditional
On the *New Project* page fill in the **title** of the Project [school, class and year is good – shorter is easier], **project type** is 'normal', add **project icon** and **project cover** (banner image) if you like (or later), **preferred submission model** is 'anyone', you can fill in a **description**, **terms** is optional (I don't use it), **location** is the area your project cover, can be the world, a country, a city, etc. (this can be left blank), **observation rules** does not need to get added for this type of project, I leave **project list** blank, **observation fields** makes sure that students fill in certain fields (I don't use it), **tracking codes** are not needed for this project. Then hit CREATE to save your project.
5. **Your newly created project** should now show up on the *Projects Page* under '*Manage Your Projects*' button. Click on your project in the drop-down menu and the project page opens up.
Copy the project url and insert in student instructions.
6. On the home page of your project you will see statistics (number of observations, species, and participants in total), three leaderboards for number of observations per person, number of species per person, and the five most observed species), a button (top right) for *Edit Project*, a

big red button *Add Observations* (to add observations using the computer), and many more tools. There is a journal Post tool where you can write journal entries to all participants. Students will need to JOIN the project (see Student Instructions).

7. **Modify and edit the student instructions to fit your own class project.**
8. **Modify the bingo sheets to fit your species selection.** (It is perfectly fine to just use 25 species, or change it to a 6x6 or 4x4 grid, whatever you prefer.)
9. **Modify the grading rubric to fit your species selection and project.**
10. **Tell the students to set up their iNaturalist accounts.** I let them have anonymous account names, but they need to let me, the instructor, know what their account name is.
11. **You are ready to start.**

Examples of Species Bingo class projects on iNaturalist:

Rutgers Plant Diversity and Evolution 2019: <https://www.inaturalist.org/projects/rutgers-pldivevol-2019>

Rutgers Plant Diversity and Evolution 2018: <https://www.inaturalist.org/projects/rutgers-pldivevol-2018>

Example project page:

The screenshot shows the iNaturalist project page for 'Rutgers PIDivEvol 2019'. At the top, there is a navigation bar with 'iNaturalist' logo, search icon, and links for 'Explore', 'Your Observations', 'Community', 'Identify', and 'More'. A green 'Upload' button and notification icons are on the right. Below the navigation is a header with 'Projects' and 'Terms & Rules | Edit Project'. The main image shows pink flowers with a red 'ADD OBSERVATIONS' button. The 'Stats' section is divided into four columns:

Totals	Most Observations	Most Species	Most Observed Species
1774 Observations »	analiberocal 55 observations	jennifercinque 50 species	Common Mugwort 44 observations
82 Species »	naremannahnoch 53 observations	akingsdahlia 49 species	American Pokeweed 43 observations
44 People »	mamplantdiv 53 observations	ew365 48 species	White Clover 40 observations
	ew365 52 observations	k2498 47 species	Poison Ivy 40 observations
	kenneth_castro 51 observations	poppoff 47 species	English Ivy 39 observations

Cont'd.

Members 47 members
[View All Members »](#)

Your Membership 0 observations

Add from Your Observations
[Download template for use in the bulk uploader](#)

Export Observations
[Atom / CSV](#)

Usage stats

Project Curator Tools

- [Find Suitable Observations](#)
- [Find Unsuitable Observations](#)
- [Export with Hidden Coordinates](#)
- [Filter by Curator Identification](#)
- [Identify Observations](#)
- [New Journal Post](#)

Journal

Your project journal is a tool for communicating with project members. You can use it to make announcements, set priorities, or talk about your project's findings.

To get started, [create a post »](#)

Recent observations [View All »](#) Grid List

1 ID	1 ID	4 IDs	1 ID
5 IDs	1 ID	1 ID	1 ID
1 ID	3 IDs	1 ID	1 ID

About

This Rutgers class project is exclusively for students in the Plant Diversity and Evolution/Plant Systematics class during Fall 2019 at Rutgers University, New Brunswick, New Jersey, USA.

Students, please see detailed instructions in the manual, excel sheet for observations, and grading rubric handed out for the project (available on course website).

Observations in this project may be from anywhere, but should only be of the 50 species from the species list handed out in class. (If an observation turns out not to be any of the listed taxa (species or genus) it will be removed from this project.)

All observations should have good photos and visible geographic coordinates on the map. Please help to identify what the class sees, it is perfectly fine to give or correct ID's on these observations. [less ↑](#)

vilseskog created this project on August 28, 2019

[Above – example of class project pages on iNaturalist: Rutgers Plant Diversity and Evolution 2019, taught by Lena Struwe, Matt Elmore, and Thierry Besancon.]

While the project is running

12. **Make sure all students are engaged as much as possible**, have joined the project, know how to upload species both to iNaturalist in general, and to the project in particular, and that they have started to look for species.
13. **On the project page, look through incoming observations** (see *Recent observations* at the bottom of the project home page [can be viewed as GRID or LIST], or, click on *Observations* within the *Stats* area on the project home page – this links to the full *Observations* page that can be viewed as MAP, GRID, or LIST).
14. The **Observations page** can be viewed based on *Observations*, *Species*, *Identifiers* (helpful iNaturalist users that comment and identify observations to species), and *Observers* (the people that have uploaded species to your project).

The screenshot shows the iNaturalist Observations page for a project. At the top, there is a search bar with 'Species' and 'Location' fields, a 'Go' button, and a 'Filters' button with a notification badge. Below the search bar is a navigation bar with 'The World' and statistics: 1,774 OBSERVATIONS, 82 SPECIES, 120 IDENTIFIERS, and 44 OBSERVERS. The main content area displays a grid of observation cards for various species: White Clover (*Trifolium repens*), Tree-of-Heaven (*Ailanthus altissima*), Sunflowers, Daisies... (Family Asteraceae), Madagascar Periwinkle (*Catharanthus roseus*), Ginkgo (*Ginkgo biloba*), Sugar Maple (*Acer saccharum*), Apples (Genus *Malus*), and Asiatic Dayflower (*Commelina communis*). Each card includes a photo, the species name, scientific name, grade (Research or Casual), number of identifiers, and time since observation.

[Above: Example of Observations page for a project (or a search result among observations).]


15. You can **search for a particular species** (or larger taxonomic group) **and/or geographic area** in the top bar.

16. You can **filter all observations** by clicking on the button that says *Filters* (top right). This is menu shows up then (see below). Note the *Project* – that means that you are only filtering observations from your own project (that would be replaced with your own project number). If empty, then you can type in your project name to find your project there. Click *Update Search* to Refresh the search results. This is also how you *Download* a list of observation data for other projects (not needed in this class assignment) – use the Download button on the bottom right. The leaf with a question mark in it means you will find observations that have no identifications entered at all. Click anywhere outside the filter menu to close it.

[above: Filter observations menu]

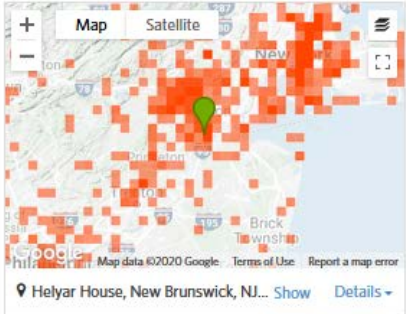
17. **Click on any observation to see the detailed observation page for that observation.** [Go back to your Observations page first.] This page contains a lot of information about that particular observation. For the class project, focus on ID and comments, correct date, and a mapping point on the map (pointy circle). If you agree with the species identification, click the *Agree* button. If you disagree, you can give a new identification. Leave comments to the student if something needs to be changed, fixed, or improved, or just encouraging positive comments. Remember, everything you write on iNaturalist is public, anyone can see it.

White Clover (*Trifolium repens*) ! Research Grade Follow ▾



jacedo
50 observations ◀ ▶

Observed: Oct 27, 2019 - 11:18 PM EDT Submitted: Nov 4, 2019 - 6:14 PM EST



☆ Be the first to favorite this observation!

Activity

jacedo suggested an ID Improving · 4mo ▾

White Clover
Trifolium repens

Compare Agree

ulrichs suggested an ID 4mo ▾

White Clover
Trifolium repens

Comment Suggest an Identification

Leave a comment

Community Taxon

What's this?

White Clover (*Trifolium repens*) !

Cumulative IDs: 2 of 2

0
2
2/3rds

Agree Compare About

Annotations

Projects (1)

Add to a Project

Rutgers PIDivEvol 2019 ⚙

[Example of a page of an observation, continued below]

The observation page also includes the Data Quality Assessment table, where anyone can mark if they disagree with any of the properties of the observation record. This is one place where you can change an observation from wild to cultivated/captive, using the thumbs-up and thumbs-down symbols. If a student has posted inappropriate content, this is where you can flag this, but most problems should be treated by leaving a comment instead. Inappropriate content is for really bad things, like stealing photos from others and using photos from the internet (copyright infringement), etc.

✔ Data Quality Assessment ?

Quality Grade: **Research**

The Data Quality Assessment is an evaluation of an observation's accuracy. Research Grade observations may be used by scientists for research. Cast your vote below:

Research Grade Qualification	Yes	No
Date specified	✔	
Location specified	✔	
Has Photos or Sounds	✔	
Has ID supported by two or more	✔	
Date is accurate	✔	
Location is accurate	✔	
Organism is wild	✔	
Evidence of organism	✔	
Recent evidence of an organism	✔	
Community Taxon at species level or lower	✔	

Based on the evidence, can the Community Taxon still be confirmed or improved?

Yes No, it's as good as it can be

Inappropriate content? [Flag As Inappropriate](#)

Needs ID Casual Research Grade

This observation is Research Grade! It can now be used for research and featured on other websites.


This observation is featured on 1 site

GBIF


18. You can also find the project observations that need help with identification by clicking on the **Identify** tab on the iNaturalist home page. Then use the *Filter* tool to select your class project, so you only see those observations, not everyone else's.

Identify

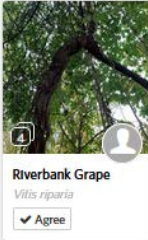
Search: Reviewed




Sugar Maple
Acer saccharum




Maples
Genus *Acer*
3




Riverbank Grape
Vitis riparia




Grapevines
Genus *Vitis*
1




Genus *Parthenocissus*
2 4




Genus *Parthenocissus*
3




Morning-Glories
Genus *Ipomoea*
2



Genus *Parthenocissus*
2



Japanese Stiltgrass
Microstegium vimineum



Muscadine
Vitis rotundifolia

126 observations reviewed

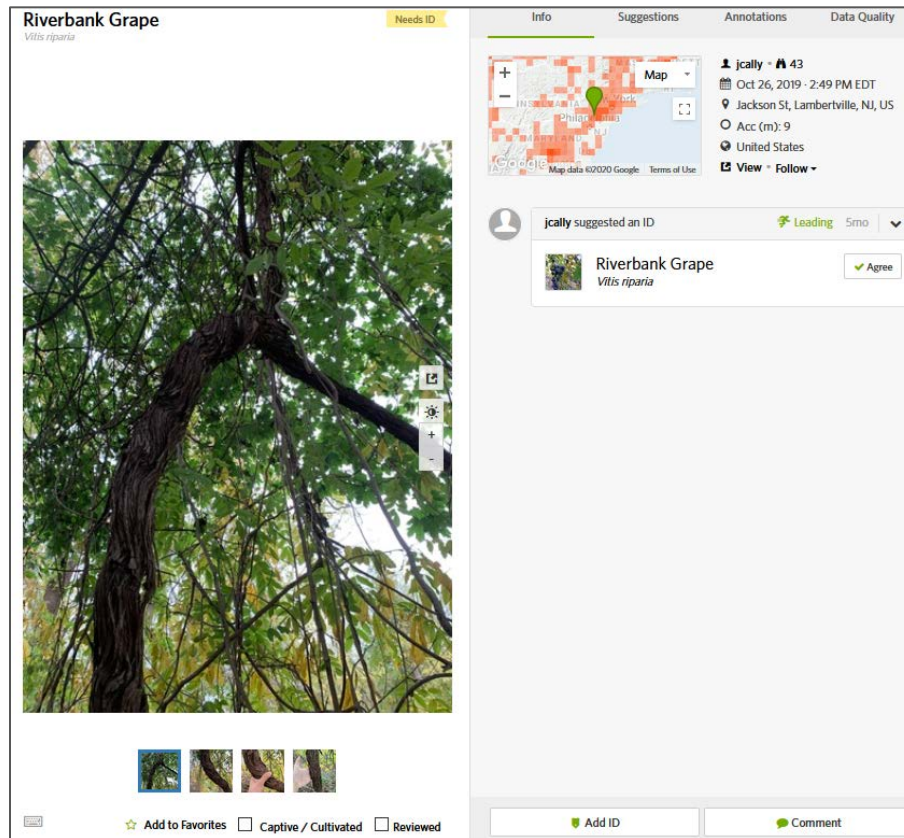
0 147

Top Identifiers

RANK	IDENTIFIERS	IDENTIFICATIONS
1	viliseskog	1,557
2	tbesancon	606
3	mertensia	378
4	mamplantdiv	203
5	k2498	153
6	sadawolk	77

[above – Identify interface on iNaturalist. Use the Filters tool to select a subset of all observations that need identification]

- 19. If you click on an observation in the Identify interface, a smaller observation page opens up.** You can Add ID, agree with ID or add a comment here, easily mark if it is a captive/cultivated species, scroll through the various photo of the observation, and mark it reviewed when you are OK with it, so that you don't need to check it again. You can also see date and mapping point.



- 20. It is a good idea to review all observations and help students avoid pitfalls and mistakes** mentioned in the Teacher's Guide by iNaturalist. Remember that you should be the steward of the data that your students upload. <https://www.inaturalist.org/pages/teacher's+guide> Remember that only the owner of an account can delete or modify an observation, but you can comment about any problems you might find. Comment in a very friendly and explanatory way, that is the custom on iNaturalist.

After the project is over – the grading:

By comparing the reporting sheet with what is actually uploaded in the project for that student, you can relatively easily check that numbers are the same, that species identity is correct, and that they all have correct date and a locality. There is a grading rubric you can download.