



MushroomLog

Version 1.5

MushroomLog is an iPhone App designed to keep track of when and where you find wild mushrooms. You can log single observations, like when you spot a chicken-of-the-woods during a drive along a back road, or you can use it to track where you go and what you find on a mushroom walk with your local mycological club. In addition to mapping the location of each observation, it lets you record the common name and scientific name of the mushroom, what the mushroom was growing on, the habitat where you found it, how plentiful they were, and how confident you are in your identification. You can take and save pictures of each mushroom. The App builds a database of your foray locations, where you walked on each foray, and each mushroom observation you made. After your walk, you can retrieve a list or map of your observations.

Instructions:

The first time you launch MushroomLog it will import the scientific names of over 3000 North American and UK mushrooms, plus common names for more than 2000 into its Taxonomic Thesaurus. This takes a few minutes, so don't close the program right away or your list might be incomplete. When you record a mushroom observation, you will only need to type part of a mushroom common or scientific name and MushroomLog will look up all the possible matching names. This makes observation entry much quicker and prevents misspellings. On first use, MushroomLog will ask for permission to send you notifications. If you allow this, it will remind you during your walk to turn off the tracking option as you approach the spot where you started. The first time you record a Single Observation or the first time you create a Location (see below), MushroomLog will ask for permission to use your Location. The basic functionality of the app depends on this, so you should allow it.

SINGLE OBSERVATION - The opening screen is the "Single Observation" module. This corresponds to the left-most tab on the bottom Tab Bar (the Eye icon). Use this module to record single observations, like when you spot a puffball on your neighbor's lawn, or after you slam on your brakes to collect some oyster mushrooms when you're taking the scenic route

home from work. You will be able to search for these observations later by mushroom name, by year, by month, by the certainty of your identification. To record an observation, just press the “Create Observation” button. This will bring you to the “New Observation” screen. Assuming that you have a cellular and/or GPS signal, you will notice that your latitude and longitude are already filled in at the bottom of the screen along with the date and time. You will also see an Observation Number at the lower left. This number is automatically incremented for each observation that you record. It is a good way to match up your observation with any sample of the mushroom that you might take. Just remember to write the Observation Number on the bag with the mushroom. The cursor will be in the Mushroom Name field. If you know what the mushroom is, just start typing any part of its common or scientific name. A dropdown list will appear with all the names that match what you have typed so far. You can click on the name you want, or you can keep typing until there is only one option left and then press Return. If the name is not in the Thesaurus, you can type the full name and press Return. This will record the name you type, but will not add it to the Thesaurus. You can then fill in as many of the remaining fields as you wish. It is especially helpful to fill in the ID Confidence field. That way when you get home, or if you go to a mushroom ID session, you can retrieve the observations that you would like some help with. Alternatively, you can record the name of the mushroom as “Unknown” and later retrieve all your “Unknown” mushrooms. When you are finished filling in the fields you want, there is a camera icon at the upper right that lets you take pictures of your find. You can take as many pictures as you like. They will appear in a single row at the bottom of the New Observation screen. If you take more than 3 or 4 pictures, you can swipe to the right or left to see them. To delete an unwanted picture, long-press the thumbnail or swipe it upward. It will ask you to confirm the deletion. For a zoomable, full-screen view of an image, just tap its thumbnail. From the full-screen view, you will have the option to copy the image to “My Photos” or to send the image via AirDrop, eMail, iMessage, or Twitter or post it to Facebook.

FORAYS – In MushroomLog, a “Foray” is a walk in the woods to look for mushrooms. The third tab on the Tab Bar (with the Map icon) is for logging Foray Locations, Forays, and mushrooms you observe during the Foray. Optionally, it will map your track during the walk. When you select the Foray tab, it will bring you to the “Locations” screen. Here you record the general locations where your Forays take place. For example, let’s say you are going on a Foray (i.e. a mushroom walk) at Willowdale State Forest with the Boston Mycological Club. When you arrive at the site, you would click on the Foray tab, then at the top right of the Locations screen, click on the + sign. A map will appear and, if you wait a few seconds, the map should zoom in on your current location and fill in your latitude, longitude and state (US only). You should fill in the “Location Name” field with an appropriate name for the site. In this example, it might be “Willowdale State Forest”. Then click Done. This will return you to the Locations screen. If you want to change the location name or move its location pin, click the Information icon (letter I in a circle) to the right of the location name. You can also use this latter to access an Observation List for that Location.

When you are ready to start your Foray at the location you just created, click on the location name (not the Information icon). This will show you a list of any Forays that you have made at that location, but since you just created the Location entry, the list will be empty. Click the + sign at the top right. This will create new Foray and bring you to the Foray Map screen. Fill in

the Leader, Organization and Note Fields if you wish to. To hide the keyboard, press Return in the Leader or Organization field. You can also press the Hide Info button so you can see more of the map. Assuming you have an adequate cell and/or GPS signal, the map should have a blue dot that indicates your current location. At this point, you have two options. One is you can just go ahead and start your walk. The blue dot will follow you. The second option is you can have MushroomLog track where you walk, in which case, it will create a blue line on the map showing where you have been. This can be very useful for finding your way back to your starting point, or later for finding your way back to where you found a mushroom. The disadvantage of Tracking your walk is that it will use more battery power. (With a full charge and a good battery, Tracking may shorten your battery life to about 3-4 hrs).

During your walk, when you find mushrooms you want to log, just press the “Add Observation” button. It will bring you to the “New Observation” screen where you can take pictures and record the name, substrate, habitat, ID Confidence, abundance, and notes about the mushroom. (For more details, see the Single Observation instructions above.) When you’re done entering information for an observation, press the < Back arrow at the upper left. Each observation you record will be linked to the current Foray and will show up as a pin on the Foray Map. If you want to return to the New Observation screen for an observation you recorded, you can touch the pinhead for the observation on the Foray Map then touch the blue Information icon (letter I in a circle).

Between observations on your Foray, it’s a good idea to press the Lock button on your iPhone/iPad so that MushroomLog is not the active App. This is especially important if you are going to put the iPhone in your pocket. This prevents buttons on the screen from being “pocket pressed”. If you are tracking your walk, MushroomLog will continue tracking even when the App is running in the background. At the end of your Foray, press the “End Foray” button on the top left of the Foray Map screen. This will save the Foray, your Observations and your Track (if you were tracking your walk). It is important to remember to do this if you were tracking your walk, as MushroomLog will continue to track your path until you end the Foray. To help you remember to do this, MushroomLog will remind you as you approach the place where you started tracking (assuming you gave it permission to send you Alerts).

You can go back to previous Foray Maps later by selecting the Forays Tab, selecting the Location, then selecting the Foray date. You will be able click on any of the Observation pins or open a list of all the Observations you made during the Foray. From the Observation List, you can select an individual observation and it will open the Observation Detail screen. From the Observation Detail screen, you can add or edit information including the name of the mushroom. You can also take additional pictures or delete pictures you don’t want (just long-press or swipe a picture upward to delete it). From the Observation List, you can also delete an unwanted Observation by swiping to the left. From the Observation List, you can also generate a Species List for the walk by pressing the List icon in the Navigation bar. You can send the Species List via iMessage, eMail, AirDrop or several other methods by pressing the Action icon (square with an up-arrow) in the Navigation bar.

You can delete an entire Foray (including all its Observations, Tracks and Pictures). From the Foray List for a Location, swipe the unwanted Foray to the Left then press the Delete button. It will ask you to confirm the deletion. You can delete a Location (including all its Forays,

Observation, Tracks and Pictures) from the Locations List by swiping the unwanted Location to the left. Once you press the Delete button and confirm, it will be gone.

If you have made more than one Foray at the same Location, you can display multiple Forays on the same map. From the Forays Tab, select a Location. In the Forays screen, select the gray checkmark at the upper right, then select each Foray that you would like to view. Once you have selected more than one, a Map Overlay icon will appear at the top right. If you select the Map Overlay icon, it will display a map with each of the selected Forays tracks in a different color. The pins will be color-coded by species. If you wish to see the previous Forays while recording a new Foray, use the checkmark to select the previous Forays, then press the + sign icon to start the new Foray. In the Map View, you will be able to toggle the selected previous Forays off and on using the Map Overlay button at the top right. You will see two additional buttons in the top navigation bar. One is an Activity button (rectangle with an up-arrow) that lets you export an entire foray (see Exporting and Importing below). The other is a List button, which will display all the observations from the map in list form.

SETTINGS – The Settings Tab (Cog icon) lets you set default values for Foray Leader and Foray Organization. If you are a member of a mycological group, like the Boston Mycological Club (BMC), you might want to put the group’s name or initials in the Foray Organization field. If most of your Forays are on your own, you can put your name or initials in the Foray Leader box. The values you save here will automatically be filled in when you create a new Foray. Of course, you can always change them. Each Observation you record is given an Observation Number. The number is automatically incremented for the next Observation. You can change where the numbers will start by entering a different Next Observation Number. The default units for distances is miles (and feet). You can change it to km (and m) by selecting km button. You can change it back by selecting the Miles button. If you have an account on the website MushroomObserver.org (MO) you can have MushroomLog send individual observations to MO. To do so, you will need an MO key. Details on how to obtain the key are given below in the Export and Import section. Once you have the key, copy it into the MO key field of the Settings. In the Settings, you can choose the precision of the location information that you want sent to MO (so you don’t give away the exact spot where you found those black trumpets). You can also set the size of the images that MushroomLog sends when you export a Foray. Detailed instructions for sending Observations to MO and on exporting Forays are given in the Export and Import section later in the document. At the bottom of the Settings view, the Version and Build numbers are displayed for your copy of MushroomLog.

SEARCH – The Search Tab (Magnifying Glass icon) allows you to search all your Single and Foray Observations based on a number of different criteria. You can use the Foray tab to retrieve all the Observations associated with a one or more Forays at a particular location. The Search Tab allows you to search your entire Observation database on Mushroom Name (or a part of a name), the year or a range of years, the month or a range of months, the state where it was found, the name (or part of the name) of the Location, Proximity to your current location, your ID confidence, or a combination of these things. For example, if you put *Bolete* in the Mushroom Name field and **06** in the Start MM field, it will retrieve an Observation List of all the

mushrooms that contain “Bolete” in their name that you found during the month of June, regardless of the year. If you go to a mushroom ID session, you could search for all your recent Observations where you had Low, Medium or No confidence in your identification.

You can sort the Observation List by Common Name, Scientific Name, State and Month (the Proximity Sort doesn't work yet).

Once you have entered all your Search and Sort Criteria, press the search icon (Magnifying Glass) **at the top right** of the screen and it will display a sorted Observation List. Select an Observation to display the Observation Details screen and pictures. From here you can make any changes you want to the Observation. Click the < Back button to return to the observation list. You can permanently delete an Observation in the list by swiping to the left. You can also get a map of the Observations you searched for by pressing “Map” at the top right of the Observation List. If your Observation List was sorted by Common Name or Scientific Name, the pins on the map will be color-coded by name. From the Observation List, you can also generate a Species List by pressing the List icon in the Navigation bar. You can send the Species List via iMessage, eMail, AirDrop or several other methods by pressing the Action icon (square with an up-arrow) in the Navigation bar of the Species List view.

LOOKUP – The Lookup module is available at any time so you can do a quick check on a mushroom name. Just tap the mushroom icon on the lower right side of the screen. As you start typing part of the scientific or common name, a list of all mushrooms names that contain what you have typed will expand below. Once you see the name you're looking for, you can click on to bring up a detail screen where you can edit the name or add notes about it if you wish. If the name you type is not in the Taxonomic Thesaurus, you will have the option of adding it. Just finish typing the name and press the Return key. If you wish, you can add non-mushroom species to your Thesaurus such as wildflowers or edible plants, etc.

EXPORT and IMPORT – MushroomLog keeps all your Locations, Observation, Images, Tracks and other information in a database on your iPhone where no one else can access it. There may be times when you would like to share observations or entire forays with a friend or colleague, or post an image to Facebook.

Images – Individual Images associated with an Observation can be copied to your iPhone Photos, sent to an AirPrint printer, posted on Facebook or Twitter, or sent to someone else via AirDrop, eMail or iMessage. To do this, navigate to the observation containing the image using the Search module or the Foray module. Tap the image you want to send to view it in the full-screen Image View. If you want to copy the image to your iPhone Photos, just press the Copy to My Photos button. For other options, press the Action button (box with an up-arrow) in the top Navigation bar. Twitter and Facebook options will only appear if you are logged into them.

Observations – Individual Observations can be uploaded to MushroomObserver.org (MO). If you are not familiar with MO, it is a collaborative mycology website started by Nathan Wilson in

2006. Its purpose is to "record observations about **mushrooms**, help people identify **mushrooms** they aren't familiar with, and expand the community around the scientific exploration of **mushrooms**". If you post one of your Observations to MO with a tentative ID, sometimes within minutes, almost always within a day, someone will confirm or correct your identification. Here's what you need to do to upload an Observation from MushroomLog to MushroomObserver:

1. If you don't already have one, create an account on MushroomObserver.org. (MO)
2. Once you have an account on MO, you can create an "API Key" for MO at http://mushroomobserver.org/account/api_keys. MushroomLog (ML) has a space in the Settings screen where you can paste the API Key. Once there is something in the API Key, the ability to upload Observations to MO will be enabled in ML.
3. In MushroomLog, when you are in one of your Observations, you will see an Activity icon (rectangle with an up-arrow) in the Navigation bar. If you tap that icon, it will take you to the upload screen where it will create a reformatted version of your Observation to send to MO. Once it's ready, a "Begin Upload" button will appear. If there are images associated with the Observation, you can select the ones you want to include in the upload. After you select the images to include, press the "Begin Upload" button and that Observation will be on its way.
4. If you have already upload an Observation to MO, it's MO observation number will be displayed in MushroomLog in the Observation Lists and in the Observation Detail view (at the bottom of the screen). If you try to upload the same Observation to MO again, it will check to see if it is still on MO (you may have deleted it). If it is still there, but the consensus name has changed from your original proposed name, you will be given the option of changing the name in MushroomLog to match the MO consensus name.

MushroomObserver requires that all submitted Observations include location information. If you are protective of your favorite spots, you can use the MushroomLog Settings module to select how precise (or imprecise) you would like the uploaded location information to be. If you have entered information in the Habitat, Substrate, Abundance, and Notes fields of your Observation, this information will be uploaded into the MO Notes field.

It is recommended that you upload Observations when you have a WiFi connection rather than trying to do it over cellular service. It's OK to upload a couple of test Observations to MO. You can delete them from MO by going to Your Observations on MO, selecting the Observation you want to delete, and pressing the Destroy button.

Forays – One or more Forays from a given Location can be export from MushroomLog and imported into MushroomLog on another iPhone or iPad. All the Tracks, Observations and Images will be included. To export Forays, go to the Foray module and select the Location that contains the Foray(s) you want to export. If you want to export one Foray, just tap that Foray to open the Foray Map View. If you want to export more than one Foray from that Location, tap the checkmark in the top Navigation Bar, select each Foray to be exported, then tap the Map Overlay icon in the top Navigation Bar to open the Foray Map View. Once you are in the Map View, tap the Activity button (box with an up-arrow) in the top Navigation Bar. This will create the export file (xml format) and present you with several options for sending the exported

Foray(s) including AirDrop and eMail. There may be other options as well depending on what you have installed or enable on your device. Note that the export file can be very large, especially if you have many Observations and Images associated with the Foray, so you probably don't want to send it over a cellular connection. If the recipient is nearby, AirDrop is a good choice since it uses Bluetooth®. You can reduce the size of your export files by selecting a smaller Export Image Size in the Settings module before you create the file. The choices are None, Small (320 x 240), Medium (640 x 480), Large (1280 x 960), or Full (original full scale image). The default is Medium. If you select None, images will not be included in the export.

When you receive an exported Foray file via eMail or AirDrop, just double-tap the file and MushroomLog will automatically open and import the file. MushroomLog will create a new Location entry for the imported Foray(s), even if you already have a Location with the same name. The new Location will have "(imported)" appended to its name. Imported Observation will have an (I) after the Observation Number. There is no checking for duplication of Observation numbers among imported Observation, nor is there any checking for duplication of imported Forays. If you import the same file twice, you will have two entries for the imported Location and each will contain the Forays, Observations, Tracks and Images. This is not a problem, since you can simply delete one of the imported Locations.

Merging Locations - If you would like to move the Forays from an imported Location (or any Location) into one of your existing Locations, it is possible to Merge two Locations. This makes sense only if the two Locations are essentially the same place. To Merge two Locations:

1. Go to the Locations screen in the Forays module.
2. Long Press on one of the Locations you would like to merge. The Information icon for the Location will be replaced with a Checkmark and the title of the Screen will change from "Locations" to "Merge into...".
 - a. To cancel this, just tap the same Location again
3. Now tap the Location you would like to Merge with. You will be asked to Confirm or Cancel the Merge.
4. If you Confirm the Merge:
 - a. All the Forays in the first Location (the one you Long Pressed) will be moved to the second Location.
 - b. The Name of the first Location will be appended to the name of the second location. You can edit this name later by clicking on the Information icon for the Location
 - c. The first Location will be removed.
 - d. The geographic coordinates for the resulting Location will be those of the second Location (i.e. the Location you moved the Forays into.).

There is no simple way to undo a merger. One way it can be accomplished is by exporting then importing the Forays you want to move. This will put the exported Forays in their own new Location. You can then delete them from the other Location.

Merging Forays - If you would like to move the Observations from one Foray into another Foray at the same Location, it is possible to Merge two Forays. This is helpful if you make two walks at the same location on the same day. It is important to consider the consequences of merging two Forays that occurred on different days. To Merge two Forays:

1. Go to the Forays screen in the Location.
2. Long Press on one of the Forays you would like to merge. A Checkmark will appear next to the Foray and the title of the Screen will change from "Forays" to "Merge into...".
 - a. To cancel this, just tap the same Foray again
3. Now tap the Foray you would like to Merge with. You will be asked to Confirm or Cancel the Merge.
 - a. If you Confirm the Merge:
 - i. All the Observations, Images and Tracks from the first Foray (the one you Long Pressed) will be moved to the second Foray.
 - ii. The first Foray will be removed.

There is no simple way to undo a merger. One way it can be accomplished is by exporting then importing the Forays you want to split. This will put the exported Forays in their own new Location. You can then merge the Locations and delete some of the Observation from each Foray.

Contact Information: Thanks for using MushroomLog. If you run into any problems or want to make suggestions, you can contact me by email at: chris@mushroomlog.net