

Compiled by Bruce Hoffman and Marc Williams

marc@botanyeveryday.com

Key Inf = Informational, Par = Participatory, Net = Networked, Int = Interactive

Format	Inf	Par	Net	Int	Name	Description	Address/Contact
Mobile App	x				Plants	Database of plants northeast U.S.	https://play.google.com/store/apps/details?id=com.bim.plant
Mobile App	x				Key: Plant Families	Keys to plant families, northeast U.S.	https://play.google.com/store/apps/details?id=com.bim.key.plantfamily198
Mobile App	x				Leaf Snap	Leaf snapshots used to identify plants; Quizzes to learn plants by leaf shape; The first in a series of electronic field guides developed by researchers from Columbia University, the University of Maryland, and the Smithsonian Institution. A free mobile app that uses visual recognition to identify tree species from photos of their leaves.	www.leafsnap.com
Mobile App	x				Audubon Field Guide to North American Trees	Portable Field Guide to the major trees of North America	App Stores
Mobile App	x				TreeBook	Data on 100 trees	App Stores
Mobile App	x				FloraFolio	Native plants of North America	App Stores
Mobile App	x				Wild Edibles	Created in collaboration with foraging expert 'Wildman' Steve Brill. The full version of the app contains 165 major edibles plus 52 minor plants, all of the identification and poisonous lookalike information you need to forage safely, and a recipe for every plant in the guide. It's a field guide that synthesizes a lifetime of teaching foraging to the general public. Includes an easy to use interactive interface for portability and search-ability on handheld devices.	http://itunes.apple.com/us/app/wild-edibles-full/id431504588?mt=8&ls=1#
Mobile App	x	x	x	x	Boskoi	Edible Foods Reporting	www.boskoi.org
Mobile App	x				Chicago Botanical Garden App	Guide to garden layout, individual plants, maps, interpretation	www.chicagobotanic.org/app
Mobile App	x				New York Botanical Garden App	Guide to garden layout, individual plants, maps, interpretation	http://www.nybg.org/app/

Mobile App	x		Coastal Maine Botanical Gardens	Guide to garden layout, individual plants, maps, interpretation	App Stores	
Mobile App	x		National Botanical Gardens Ireland	Guide to garden layout, individual plants, maps, interpretation	App Stores	
Mobile App	x		University of CA Botanical Gardens, Berkeley	Guide to garden layout, individual plants, maps, interpretation	App Stores	
Mobile App	x		Botanical Biology - Morphology	Handbook on botany - useful for students to learn structures and have a text book in their phone	App Stores	
Mobile App	x	x	My plant diary	Write and see the path of plant's growth every day! (Many apps like this) - with great potential for science experiments and developing skills	App Stores	
Mobile App	x	x	x	x	WildObs Observer Several useful apps exist to chart wildlife sightings. WildObs is a favorite. It is very easy to report sightings, identify species, and observations show up on the National Wildlife Federation's Wildlife Watch website	App Stores
Mobile App	x	x	x	x	Sci.Spy A fantastic wildlife photography and observation application. Anything witnessed from people in the garden or on a trail can be photographed and shared with this helpful application. One can either partake in a mission or share your experiences for fun.	App Stores
Mobile App	x	x	x	x	Project Noah Check-in to nature with this nature observation application. With your photos you can help accomplish missions and explore other sightings. Project Noah allows one to upload flora and fauna, and once you've created an account you can meet other nature enthusiasts as well.	App Stores
Mobile App	x	x		x	iNaturalist Easy to use application used to log wildlife sightings. Does not require a photo and it gives ample room for notes. Automatically fills in the date and location to help make recording observations easier.	App Stores
Mobile App	x	x	x	x	I'veGot1 Invasive species reporting and outreach campaign in Florida	App Stores

Mobile App	x	x	x	x	Open Data Kit (ODK)	ODK an easy to use and free suite of tools created to help organizations and researchers collect, aggregate and visualize their data. Open-source. Allows the collection of data on mobile phones and data submission to a central web based server. Additional benefits includes a secure online database for protecting intellectual property rights. Tools have an inbuilt flexibility to be able to collect different data types including interview responses, GPS locations, images and video recordings. ODK may be difficult to be set up and run.	r.fuller@auckland.ac.nz http://opendatakit.org
Multi Media	x	x	x	x	Second Life (SL), Active Worlds, There, Whyville, Club Penguin, HiPiHi	Provides an opportunity for not only supporting the social construction of knowledge within and between individuals, but also offer an environment that supports the literal physical representations of that knowledge construction. A teacher must become a facilitator in the network, integrate these tools into their teaching, and learn to model, facilitate, and assist students in the successful use of networks to achieve learning goals. Learner interactivity must be purposefully designed into online learning (Berge, 1999; Chou, 2003).	www.secondlife.com
QR Code, Audio Tour	x				University of Hawaii, Manoa Botanical Garden	An educational self-guided botanical audio tour was developed to evaluate two new technologies: Quick Response (QR) codes and mobile cell phone technology. Fifteen Polynesian introduced plants, commonly referred to as Canoe Plants, were selected for the self-guided audio tour. Introductory botanical, ethnobotanical, taxonomic, and historical narratives were authored for each species. Narratives were recorded and limited to about one minute per plant. Audio recordings were created using Audacity - a free, open-source software and saved as MP3 files. The audio tour was created using commercial audio tour service which provides online content management. QR codes were generated using a free online QR code generator, Kaywa (qrcode.kaywa.com). Content for the QR code tour was hosted on a free online web hosting site (www.weebly.com).	Malia Mallchok, Michael Thomas mbthomas@hawaii.edu
Website	x				Fairchild Guide to Palms	Horticultural data, digital herbarium sheets, dna information and list of living collections within the botanical gardens	http://palmguide.org/index.php
Website	x				Himenez Website	Grassroots online tropical botany key (matrix approach)	http://www.hjimenez.org/dendrology.html
Website	x	x	x	x	Project Bud Burst	Project BudBurst is a network of people across the United States who monitor plants as the seasons change and submit ecological data based on the timing of leafing, flowering, and fruiting of plants.	www.projectbudburst.org

Website	x		x	Fo.am	FoAM is a network of transdisciplinary labs for speculative culture. It is inhabited by people with diverse skills and interests – from arts, science, technology, entrepreneurship, cooking, design and gardening. It is a generalists’ community of practice working at the interstices of contrasting disciplines and worldviews. Guided by our motto “grow your own worlds,” we study and prototype possible futures, while remaining firmly rooted in cultural traditions.	fo.am\	
Website	x	x	x	x	Planting Science	Fostering student research through scientific inquiry and online mentorship. PlantingScience is a learning and research resource, bringing together students, plant scientists, and teachers from across the nation. Students engage in hands-on plant investigations, working with peers and scientist mentors to build collaborations and to improve their understanding of science	http://www.plantingscience.org/
Website	x	x	x		Botany Every Day	Online botanical studies course, Plant family monographs. Lists of book resources, websites and plant list from various areas of the United States	www.botanyeveryday.com
Website	x	x			Sylvan Botanical	The first website to offer webinars to all professions interested in Botanical Medicine. Requires registration though some classes are free.	www.sylvanbotanical.org/
Website	x				Wild Food Mentor	Over three hours of videos available by subscription on wild foods hosted by English forager Marcus Harrison	www.wildfoodmentor.co.uk
Website	x				Green Deane	You Tube videos featuring over 100 plants by "the most watched forager in the world" with around two million views.	www.eattheweeds.com
Website	x	x	x	x	MERLOT	MERLOT is an acronym for Multimedia Education Research for Learning and Online Teaching. A host of botany resources are available.	www.merlot.org
Website	x				Youtube, LifeOnTerra		http://www.lifeonterra.com
					Edmodo	An online educational resource to connect teachers with students. Requires one to establish an account.	http://www.edmodo.com/
					aPLaNET Project	The aPLaNet European Union project shows language educators how to use social networks to empower their professional development.	www.aplanet-project.eu
Website	x				LifePulp	Collections of various blogs	www.lifepulp.com

Scratchpads are an online virtual research environment for biodiversity, allowing anyone to share their data and create their own research networks. Hosted at the Natural History Museum London. Free to any scientist that completes an online registration form. Can focus on specific taxonomic groups, or the biodiversity of a biogeographic region, or any general aspect of natural history. Scratchpads are also suitable for societies or for managing and presenting projects. Key features include: tools to manage biological classifications, bibliography management, media (images, video and audio), rich taxon pages (with structured descriptions, specimen records, and distribution data), and character matrices. Various ways to communicate with site visitors include blogs, forums, newsletters and a commenting system.

Website	x	x	x	x	Scratchpads: Biodiversity Online	http://scratchpads.eu/about/concept
Website	x	x	x		Open Science Network	Ethnobiology Modules, Lesson Plans, Course Syllabi, Curricula and other Resources http://www.opensciencenetwork.net/
Website	x				Tropicos	All of the nomenclatural, bibliographic, and specimen data accumulated in the Missouri Botanical Gardens electronic databases during the past 25 years are publicly available here. This system has over 1.2 million scientific names and 4.0 million specimen records. www.tropicos.org
Website	x				Ethnobotanical & Phytochemical Database	This database representing a lifetime of work by Dr. Jim Duke has a huge amount of information searchable by plant, chemical, activity or ethnobotany www.ars-grin.gov/duke/
Website	x				American Botanical Council	Database of medicinal plants, monographs, journal archives http://cms.herbalgram.org
Website	x				Native American Ethnobotany Database	The database representing over 25 years of work by Dr. Dan Moerman now contains 44,691 items including foods, drugs, dyes, fibers and other uses of plants. This represents uses by 291 Native American groups of 4,029 species from 243 different plant families. www.herb.umd.umich.edu
Website	x				Plant Information Online from University of Minnesota	Useful to search through 1,023 North American nurseries for 97,248 plants, find 329,396 citations to 167,618 plants in science and garden literature, links to selected websites for images and regional information about 18,101 plants, and access information on 2,703 North American seed and nursery firms. A free service of the University of Minnesota Libraries. www.plantinfo.umn.edu/
Website	x	x	x		Biota of North America	The Biota of North America Program (BONAP) maintains relatively complete phytogeographic and related botanical databases for all free-living vascular plants in North America (north of Mexico). BONAP has worked with many federal and state government agencies, private groups and individual specialists across the continent to produce and edit our databases for over four decades. 21,500 species-level maps. www.bonap.org
Website	x				Ancient Arts Web Portal	Primitive Living Skills, Sustainable life skills, Wild Plant resources and a Green University www.hollowtop.com

Website	x	Wild Plants Database	Plant family photo albums	www.wildplantdatabase.net
Website	x	Costa Rican Ethnobotanical Dictionary	List of ethnobotanical uses listed alphabetically by plant genus	www.ars-grin.gov/duke/dictionary/tico/
Website	x	Ethnobotany Research and Applications	Online only journal with an international focus on field research results and methods	www.erajournal.org
Website	x	Society for Economic Botany	All journals going back over 50 years are available by members. Numerous other resources for the study of ethnobotany as well	www.econbot.org
Website	x	Ethnobotanical Leaflets	Journal since 1997 of which many article are available for download free of charge	www.ethnoleaflets.com
Website	x	Oxford University Journal	Open access online only journal for all plant biologists.	www.aobpla.oxfordjournals.org
Website	x	Henriette's Herbal Page	10941 Botanical plant photos. Plant names (now 11533 species in 3198 genera).	www.henriettesherbal.com
Website	x	Ethnobotany of the Lower Pecos Canyonlands	Photo album of plants with ethnobotanical information	www.texasbeyondhistory.net/ethnobot/index.html
Website	x	USDA Plants Database	The PLANTS Database provides standardized information about the vascular plants, mosses, liverworts, hornworts, and lichens of the U.S. and its territories. Contains over 40,000 images of plants.	www.plants.usda.gov/
Website	x	Foto Search	Botany stock photos and images 168,704 in all	www.fotosearch.com/photos-images/botany.html
Website	x	Plants for a Future	Database of over 7,000 useful plants with a mostly temperate focus	www.pfaf.org
Website	x	Hawaiian Ethnobotany	This database lists ethnobotanical information on 145 traditional Hawaiian plants.	www2.bishopmuseum.org/ethnobotanydb/index.asp
Website	x	SW School of Botanical Medicine	Ethnobotany Manuals	www.swsbm.com/Ethnobotany/Ethnobotany.html
Website	x	Encyclopedia of Life	Cited articles, Podcasts, Links to Citezen Science Projects, Videos	www.eol.org
Website	x	Taxonomic Name Resolution Service	TNRS is a tool for computer assisted plant name resolution. Changes incorrect spellings, out of date names and can process over one hundred thousand names at a time.	http://tnrs.iplantcollaborative.org/
Website	x	Rob Mutch	Works with the Encyclopedia of life. Hundred of videos on plants in particular and many other forms of life in general	www.youtube.com/user/robmutch1/videos

Website					Nature Serv	International network of biological inventories-known as natural heritage programs or conservation data centers-operating in all 50 U.S. states, Canada, Latin America and the Caribbean. Detailed local information on plants, animals, and ecosystems and information products, data management tools, and conservation services.	www.natureserve.org/
Website					Forage Ahead	Forage Ahead is a yahoo group of over 2,000 people. This is a very active listserv that counts amongst contributor several PhD's like John Kallas and Peter Gail as well as famous foragers like Wildman Steve Brill.	http://tech.groups.yahoo.com/group/ForageAhead/
Website/Blogs	x	x	x	x	Wordpress, Blogger.com	Free access software to build websites and blogs	www.wordpress.org www.blogger.com
Website/Blogs	x			x	Edutech for Teachers:	A host of tools available to integrate technology into the classroom	http://edutech4teachers.edublogs.org/
Website/Game	x	x			Germinationx	Computer games allow us to adopt new lives and see the world from different perspectives. FoAM has been working for a number of years on using games to strengthen the connection between plants and people. Our latest approach takes popular games such as FarmVille as inspiration, but explores what would happen if these games were infused with aspects of permaculture, and where “plant spirits” help or hinder you as you discover a world organised by companion planting. Germination X is a project to experiment with technology and research from the LIREC project and use it in an online multiplayer game.	http://fo.am/germinationx/
Website/Game					Growworld	Designs and prototypes for games that would strengthen the connection between plants and people	http://fo.am/blog/2011/09/28/growworld/
Website/Games/MOOC	x	x	x	x	Game-Based Learning MOOC	The Game Based Learning MOOC is a series of online open courses and an online community for educators who want to learn more about games, simulations and game-like environments for education. The Games MOOC community meets in online discussion forums, synchronous online events and virtual field trips into games and virtual worlds. It organizes a TweetChat discussion on game based learning using the hashtag #gamemooc. The Game Based Learning MOOC is offered by Online Learning at Front Range Community College through a Colorado Community College System’s Immersive and Game-based Learning Faculty Challenge.	http://gamesmooc.shivtr.com/
Website/Mobile App	x	x	x	x	Open Tree Map	Enables individuals, organizations, and governments to collaboratively contribute to an interactive and dynamic map of a community’s tree population.	www.azavea.com
Website/Mobile App/Podcast	x	x			TED	Short videos of 18 minutes and less cover a variety of topics	www.ted.com
Website/Mobile App/Software	x	x	x	x	Linked In	Professional social network consisting of discussion groups and individuals profiles	www.linkedin.com

Website/Mobile App/Software	x	x	x	x	Facebook	Social network that contains many Botany & Ethnobotany Groups as well as individuals profiles of people involved in botanical studies	www.facebook.com
Website/Mobile App/Software	x	x	x	x	Pinterest	Pinterest is a social media tool that allows people to pin their interests to a virtual board and share with others	www.pinterest.com
Website/ Software	x	x	x	x	Flickr	Website for photo sharing	http://www.flickr.com
Website/ Software/ DBmgmt	x	x		x	DELTA	DELTA is an acronym for DDescription Language for TAxonomy Descriptions, illustrations, interactive identification, and information retrieval from DELTA databases	delta-intkey.com
Website/ Software/ DBmgmt	x	x		x	XPer3	Collaborative tool for online analysis, publication and identification tools. Allows storage and editing of descriptive data online. Xper3 will come with several identification tools: an interactive identification module.	http://www.xper3.fr/
Website/Software/ DBmgmt	x	x	x	x	LUCID	Descriptions, illustrations, interactive identification, and information retrieval	http://www.lucidcentral.com/
Website/ Software/DBmgmt	x	x	x	x	BRAHMS	Newly developed XML based website version for botanical data mgmt	http://herbaria.plants.ox.ac.uk/bol/
Website/Wiki	x				Rainforest Plants	Grassroots online tropical botany keys - put up by students (inspired by fieldbotanists like Huberto Himenez & Al Gentry)	http://wikis.wheatoncollege.edu/rainforest/index.php?title=Main_Page

Citation	Category	Info	Info	Indiv.	Media	Group_Part	Course
	Learning/Identifying	1	0	1		0	0
	Learning/Identifying	1	0	1		0	0
TourSphere	Learning/Identifying	1	0	1		0	0
Green Mountain Digital (2013) Audubon Trees (Version 2.7.0) [Mobile application software] Retrieved from https://play.google.com	Learning/Identifying	1	0	0		0	0
Sarofax (2009) TreeBook (Version 1) [Mobile application software] Retrieved from https://itunes.apple.com/us/app	Learning/Identifying	1	0	0		0	0
HoliMoli! Media (2008) Florafolio [Mobile application software] Retrieved from http://www.apple.com/webapps	Learning/Identifying	1	0	0		0	0
WinterRoot LLC (2012) Wild Edibles (Version 1.1) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying	1	1	1	1	1	0
FoAM (2011) Boskoi (Version 2.1) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying/ Networking	1	1	1	1	1	0
Chicago Botanical Garden (2012) GardenGuide (Version 1.1.2) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying						
New York Botanical Garden (2012) NYBG in Bloom (Version 1.2) [Mobile application software] Retrieved from https://itunes.apple.com/us/app	Learning/Identifying						

TourSphere (2011) Coastal Maine Botanical Garden Guide (Version 1.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying						
Ziggiapps (2011) National Botanic Gardens Glasnevin (Version 1.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying						
Helping Hands (2012) UC Botanical Gardens Tour (Version 6.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying						
Online Science Classroom (2012) Biology - Plant Morphology (Version 2.4.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Courses	1	0	0		0	0
TML Service (2013) My Plant Diary (Version 1.6.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Practicing Scientific Method	0	0	1		0	0
Neukadye (2011) Wild Obs (Version 2.1) [Mobile application software] Retrieved from https://itunes.apple.com/us/app	Learning/Identifying/ Networking	1	1	1	1	1	0
Discovery Communications (2011) Sci Spy (Version 1.02) [Mobile application software] Retrieved from https://itunes.apple.com/us/app	Learning/Identifying/ Networking	1	1	1	1	1	0
Networked Organisms (2013) Project Noah (Version 2.1.4) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying/ Networking	1	1	1	1	1	0
iNaturalist (2011) Project Noah (Version 1.0) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying/ Networking	1	1	1	1	1	0
Bugwood (2012) I'veGot1 (Version 1.2.1) [Mobile application software] Retrieved from https://play.google.com/store/apps	Learning/Identifying/ Networking	1	1	1	1	1	0

Open Data Kit (2012) ODK Collects (Versions vary by device) [Mobile application software] Retrieved from <https://play.google.com/store/apps>

Virtual Reality Worlds
(adapted for Education)

Learning/Identifying

Learning/Identifying

Learning/Identifying/
Networking

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Conceptual/Creative/ Future	1	1	1	1	0	0
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Learning/Courses/Mentoring

Learning/Courses						1
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Learning/Courses

Learning/Courses

Videos

Content

Tagging/Networking

Video-

Learning/Networking

Educators

Creating/Organizing/
Networking/Learning/
Identifying
Networking/Learning/
Identifying

Database

Database

Database

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Journal

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Videos

Conservation

List Serv

Blogs

Blog

Conceptual/Creative/
Future

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Conceptual/Creative/
Future

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Learning/Courses/
Networking

Learning/Identifying/
Networking

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Learning/Courses as
podcasts

Professional Networking

Social Network

Social Network

Photo-

Learning/Networking

Creating/Organizing/Networking/Learning/Identifying

Creating/Organizing/Net

working/Learning/Identif

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Networking/Learning/

Identifying

Networking/Learning/

Identifying

Learning/Identifying

Guided Nation -

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