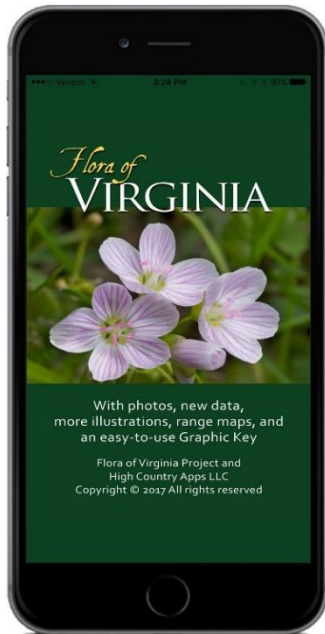# Taking the *Flora of Virginia* to the next level

RICHMOND, VA.—When early botanists like John Clayton tramped the hills of the Virginia colony in the early 1700s collecting plant specimens, little could they have anticipated how much things would change. Clayton's botanical work resulted in publication of *Flora Virginica*, the first flora for the New World. Its second and last edition came out 256 years ago. That book, which, in its only illustration, shows the Blue Ridge Mountains as the western frontier, is of little use today—unless you can read Latin!

Fast-forward to 2012, when the Flora of Virginia Project published its 1,554-page *Flora of Virginia*. The incredible seven-pound book is one of the most comprehensive state floras available today, but carrying it on a long hike might earn you a visit to the chiropractor. The Flora of Virginia mobile app to the rescue!

The Flora of Virginia Project, in Richmond, Va., and High Country Apps, in Bozeman, Mont., released the Flora of Virginia app for Android and iOS devices in late September, with final touches added in early January. It's the ultralight backpacker's dream—offering the ability to identify Virginia plants without adding an ounce to your pack! (Plus, it covers 90% to 95% of the plants from most adjacent states and 75% to 90% of the country east of the Mississippi.)

Designed for budding botanists and experts alike, the Flora of Virginia app is a great tool for learning the names and natural history of the plants that grow (native or naturalized) in Virginia, as well as botanical terms, key types of plant communities, and methods of plant identification. Introductory materials include a historical account of botanical exploration in the state.
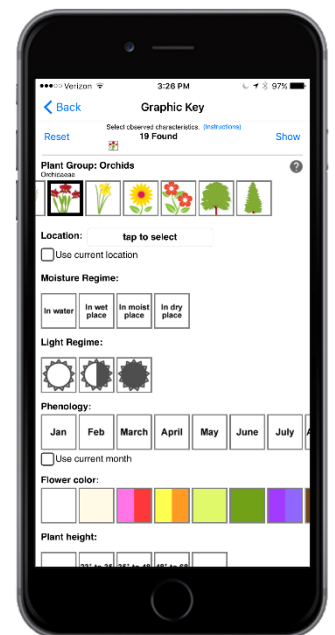
In the Flora of Virginia app, you have two techniques for identifying Virginia's 3,164 plants across 200 families!

"The Graphic Key is pretty easy to use," Bland Crowder, executive director of the Flora of Virginia Project, said of the innovative method of plant ID in which the user taps answers to questions regarding a plant's habitat and physical characteristics. "Plus, the outstanding photos [which the print *Flora of Virginia* did not include] help in distinguishing the short list of species that can result."

So far, the app features 12,000 plant photos, botanically accurate illustrations, and, also lacking in the book, species distribution maps. A guide to 50 hot spots for botanizing in Virginia is also provided, featuring magnificent photographs that weren't in the print *Flora* either.

How the Graphic Key works
The Graphic Key's interface is broken down into easy-to-use categories, such as major plant group (e.g., ferns, grasses, orchids, etc.), flower color, month of flowering, county, habitat, leaf arrangement, or leaf type. If you're hiking in the forest in Virginia in early spring and spot a pink flower with simple narrow leaves, with a few taps you're down to a few choices. Voilà! It's a Spring Beauty (*Claytonia virginica*), named for colonial botanist Clayton.

The traditional approach

The second technique for identifying plants are the more technical dichotomous keys, ideal for difficult IDs and often preferred by the pros. "Perhaps like me, you like to be extra sure that your IDs are rock solid," said Chris Ludwig, a co-author of the *Flora of Virginia* and chief biologist with the Virginia Department of Conservation and Recreation's Division of Natural Heritage, the Flora Project's chief partner. "The dichotomous keys can be used to enhance the Graphic Key or in lieu of it." A dichotomous key leads you through a series of paired statements about a mystery plant. In each pair, the user chooses the statement that best describes the plant and either reaches an ID or continues on to a new pair of statements.

No internet connection needed

Once you've downloaded the app onto your smartphone or tablet, you don't need an internet connection to use it. Thus, if you're trekking through the mountains with no Wi-Fi or cellular connection, no problem: the app is still 100% usable.

Additional info

The app includes supporting documents with information on the ecoregions of the state. You will also find an extensive glossary of botanical terms, along with labeled diagrams of major plant features. Finally, detailed descriptions are there for each genus and family, verbatim from the print *Flora.* Tapping on a genus or family name brings up a list of images and names for all its species in the app.

Partners

The Flora of Virginia app includes the full contents of the *Flora of Virginia,* by Alan Weakley of the University of North Carolina, Ludwig, and John Townsend, staff botanist with the Virginia Natural Heritage program, and edited by Crowder. The expertise of Ludwig and Townsend was crucial to development of this app. Four other partners have also been indispensable. Range maps and many photographs came from the Digital Atlas of the Virginia Flora, managed by the Virginia Botanical Associates. The Virginia Native Plant Society has supported the Project financially at state, chapter, and member levels, and many members participated as volunteers. The Virginia Academy of Science not only provided impetus for the print *Flora,* it has been a leader in financial support. And Richmond's Lewis Ginter Botanical Garden provides important planning and logistic support. High Country Apps focuses on building apps for the field study of plants in regions of the United States.

Where to purchase

The Flora of Virginia app is available at Apple and Google app stores for $19.99. A portion of revenues from app sales go to support the Flora of Virginia Project and its current focus, "Keeping the Science Current."

Images

Screenshots of the Flora of Virginia app. Images courtesy of Flora of Virginia Project and High Country Apps, LLC.

High-resolution images available. Contact katie_gibson@ieee.org.

Links to the Flora of Virginia app ($19.99):
Google Play
Apple Store