

## SOFTWARE REVIEW

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*Woody Plants in North America: A Multimedia Tutorial*, developed by JOHN R. SEILER, JOHN A. PETERSON, and EDWARD E. JENSEN. 2000, Kendall/Hunt Publishing Company, Dubuque, Iowa. \$84.95 (2-CD set). ISBN 0-7872-7437-2.

The science of dendrochronology requires considerable knowledge about the world's biota and its ecosystems. No matter what the focus is of a particular tree-ring study, the investigator must be able to identify tree species. To some degree, dendrochronologists must be familiar with the science of dendrology, the study and identification of trees. Many universities offer courses in dendrology, but time and cost constraints prevent our taking these courses. Instead, we usually rely on our trusty field guide to trees, a standard piece of equipment in many of our backpacks. Field guides, however, can provide only so much information (pictorial and descriptive) on any particular tree species. A more modern tool is sorely needed to educate dendrochronologists in species identification.

*Woody Plants in North America*, a 2-CD software package, fills this need. Detailed information is provided for 470 species of woody plants (both native and imported) found in North America, with angiosperms occupying one CD and gymnosperms occupying the other. The software contains over 9,500 photographs depicting leaves (including summer and fall foliage for deciduous hardwoods), twigs, fruits (including immature and mature cones for conifers), flowers, bark, and growth forms, as well as key distinguishing features. The photographs are not limited to one "typical" case for each property. Rather, one can browse through many photographs showing different growth forms, for example, of one species. In cases where identification is difficult, similar species can be compared side by side. In addition

to morphological characteristics, habitat properties are described (e.g., ridges and slopes, rocky soils, or mesic bottomland sites), as well as typical uses for the species. Particularly useful are the surprisingly detailed range maps. The wealth of data is very impressive.

The CD provides much more, however, than information on species identification. The software is ideal for introducing students to the myriad terms used in tree morphology. From the Main Menu, one can choose "Morphology" and select "Leaves," for example. Browsing through the next sections provides descriptions of leaf shapes (e.g. obovate, cordate, orbicular), leaf margins (e.g. serrate, crenate, dentate), leaf tips (e.g. acuminate, obtuse, truncated), and leaf bases (e.g. cuneate, rounded, auriculate). Selecting "Twigs" brings up an interactive display, where the user can click on a term (e.g. leaf scar, lenticels, terminal bud) and arrows direct the user to their location on the twig. Similarly detailed morphological terminology is provided for flowers and strobili (for both gymnosperms and angiosperms), fruits and fruiting bodies, bark, and growth forms. Lastly, the software has an interesting "Quiz" option from the Main Menu that allows users to be quizzed on species identification using morphological properties.

The software is ideal for learning about the many woody plant species in North America (including vines such as kudzu), but has two minor drawbacks. First, the software does not provide a dichotomous key for species identification, similar to those found in many field guides. Hence, you can not take a leaf from your yard, and identify the species quickly using the software. Second, the software requires the actual CDs themselves to run. This prevents unauthorized copies being in-

stalled on other computers, of course, but also hinders its portability and educational potential. For example, anyone wishing to use the software in the field on their laptop will find this CD requirement clumsy. The CD requirement also dictates use on only one computer at a time, difficult when one has a classroom of students. To get around this, of course, teachers can simply purchase ad-

ditional sets of CDs. Despite these drawbacks, this software is easily one of the best in its field, and both teachers and students of dendrochronology will find this a vital part of their learning experience.

For further information online, go to their web site for a guided tour at <http://www.cnr.vt.edu/dendro/wpina/index.html>.