

# **Exploring Botanical Diversity in Southwestern Ohio:**

A Student's Dichotomous Key to Selected  
Flora of Miami University and Adjacent Areas

**8 - 28 - 2017**

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## **Introduction**

Dichotomous keys are a powerful tool that can help you become intimately familiar with diverse groups of organisms, helping you hone in on the important similarities and differences among taxa. This dichotomous key is not intended to be an exhaustive guide to the plants found in our area. Instead, it was written for the beginning botanist in mind. Our hope is that this key will help you become comfortable with the terminology of the trade, as well as gain experience and confidence while developing your field identification skills. Despite appearances, the authors did their best to minimize exhaustive lists, but even our brief overview of the local flora represents 59 different families and includes our tallest trees and smallest wildflowers.

By the end of this course it is our hope that you will see the world around you in a new light. What were previously grouped under the category of “trees” you will now know as being Maples, Elms, or even Oaks. In short, you will come to understand the concept of plant diversity and its importance. You will learn how plants provide us with food, medicine, raw materials, and even help to shape our climate and landscapes. What’s most exciting is that we aren’t just talking about exotic plants in a far-off land—we’re talking about the very plants outside your window.

The study of plants, and the teachers who introduced us to this fascinating world, had such a tremendous impact on our lives that we decided to pursue various careers in plant biology. We recognize that not everyone using this text will decide such a career is right for them, and that is fine! However, it is our hope that you will take away a new and lasting appreciation for the world around you.

## **How to Use this Key**

In order to identify an unknown plant, begin with one of the following keys:

**Summer Key to woody plants and vines** – used for trees, shrubs, and vines when deciduous plants have leaves

**Winter Key to woody plants and vines** – used for trees, shrubs, and vines when deciduous leaves are absent

**Herbaceous Key** – used for plants lacking a permanent woody stem

These keys will get you to the correct taxonomic family, and from there guide you to the page number for that family's key.

Once the family is identified, use the family's key to identify the unknown plant to the species level. Some of the larger families (e.g. Asteraceae) will be further split at the genus level or into separate summer and winter keys due to the complexity of these families. These keys will help you get a feel for what makes the species within a family unique. In this way, these keys will help you get a feel for how evolution has shaped the world of plants, giving the similarity of common ancestry and the contrast of divergence.

### **6 Tips for the Beginning Botanist:**

1. Everyone makes mistakes, so don't be afraid of misidentifying a plant
2. If you misidentify a plant go back and retrace your way through the key
3. Don't "force" a plant to fit a description. If it's not quite right, consider other options
4. Use the glossary, it'll become your best friend
5. Ask questions if you don't understand something
6. Practice, practice, practice... No one starts out knowing this stuff!

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