

## How to Identify Species: the Golden Key

The Indiana flora consists of approximately 2700 species. So how can one tell what species one has in hand? Some excellent print publications could be consulted. However, the CMH (midwestherbaria.org) website includes a tool that should prove helpful in narrowing in on a particular species - the Golden Key.

The best way to employ the key is to approach it from one of the prepared checklists (see the Working with Species Checklists document to learn how to enter an ecoregion checklist). Alternatively, but more challenging, one could create a checklist via a Specimen Search (see the Searching the CMH Database document).

In this example, we shall use the checklist for the Bluegrass Ecoregion. Start with the Flora Projects on the home page navigation bar: Flora Projects > Indiana. On the menu of checklists find Ecoregion: Bluegrass. Note that there is a gold color key to the right of the name of the checklist. A click on it will open a page with two columns shown below.

The right hand column is a list of traits. The left hand column is the list of candidate species. As the search begins, note that the Bluegrass region has 1465 species.

Home >> Checklist: Ecoregion: Bluegrass >> Previous version of Key >> Identification Key (new)

<p><b>Ecoregion: Bluegrass</b> Species Count: 1465</p> <p><b>Acanthaceae</b></p> <p><i>Justicia americana</i> <i>Ruellia caroliniensis</i> <i>Ruellia humilis</i> <i>Ruellia strepsis</i></p> <p><b>Acoraceae</b></p> <p><i>Acorus calamus</i></p> <p><b>Adoxaceae</b></p> <p><i>Sambucus canadensis</i> <i>Viburnum acerifolium</i> <i>Viburnum dentatum</i> <i>Viburnum molle</i> <i>Viburnum prunifolium</i> <i>Viburnum rufidulum</i></p> <p><b>Alismataceae</b></p> <p><i>Alisma subcordatum</i></p>	<p><b>Filter/Display Options</b></p> <p>Family/Genus Filter: <input type="button" value="Reset"/></p> <p>All Species <input type="button" value="▼"/></p> <p>Sort by: Family/Scientific Name <input type="button" value="▼"/></p> <p><input type="checkbox"/> Display Common Names <input type="checkbox"/> Display images:</p> <p><b>Plant</b></p> <p><b>habit</b></p> <p><input type="checkbox"/> trees <input type="checkbox"/> shrubs <input type="checkbox"/> vines / lianas <input type="checkbox"/> herbaceous <input type="checkbox"/> grass-like <input type="checkbox"/> ferns &amp; allies <input type="checkbox"/> cactus-like / succulents <input type="checkbox"/> aquatic &amp; OBL wetland species</p> <p><b>special groups</b></p> <p><input type="checkbox"/> arums <input type="checkbox"/> composites <input type="checkbox"/> legumes <input type="checkbox"/> milkweeds <input type="checkbox"/> mints</p>
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The example will follow the steps leading as close as possible to [False Rue-Anemone](#), [Enemion biternatum](#). If you are familiar with the species you will know that it is an herbaceous plant with basal and alternate, compound leaves, white flowers that only

have one whorl of color parts (i.e., sepals but not petals), numerous stamens, and multiple ovaries that form so-called follicle fruits. It blooms in spring.

As we click traits in the right column, the number of species in the left hand column decreases. Likewise, there may be additional traits that are revealed in the right column.

Clicking on the herbaceous habit box reduces the number of species to 1183. It also reveals additional traits under the label of “flower type.”

Try next to indicate that the species has compound leaves. This will reduce the number of species to 165 in the Bluegrass region.

If you wish to see the common names for the species that remain, click the “Display Common Names” box.

The selection of basal leaves limits the species list to 32 species. White as the principal flower color brings the total down to 19 species.

At this point the selection of species is few enough that viewing the gallery of photos may prove helpful. Click the “Display Images” box. Of course one could deploy this option at any point.

**Ecoregion: Bluegrass**  
Species Count: 19

**Apiaceae**



*Eriogonum bulbosa*  
Harbinger-of-Spring

**Brassicaceae**



*Cardamine angustata*  
Slender Toothwort



*Cardamine concatenata*  
Cut-Leaf Toothwort



*Cardamine diphylla*  
Crinkleroot

**Filter/Display Options**

Family/Genus Filter:

Sort by: Family/Scientific Name ▾

- Display Common Names  
 Display images:

**Plant**

**habit**

- herbaceous  
 aquatic & OBL wetland species

**longevity**

- annual or biennial  
 perennial

**stature**

- scapose  
 erect or ascending; neither prostrate nor scapose

**Leaves**

**arrangement/phyllotaxy** ⓘ

- basal  
 alternate  
 opposite  
 whorled

**blade division** ⓘ

- all simple  
 deeply lobed or divided  
 some or all fully compound

Determining that there is only one whorl of perianth parts further reduces the total to 3 species, all in the Ranunculaceae or buttercup family.

[Home](#) >> Checklist: Ecoregion: Bluegrass >> Previous version of Key >> Identification Key (new version): Ecoregion

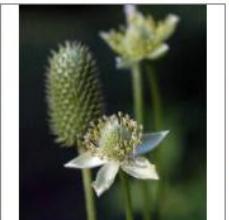
### Ecoregion: Bluegrass

Species Count: 3

#### Ranunculaceae



*Anemone quinquefolia*  
Nightcaps



*Anemone virginiana*  
Tall Thimbleweed



*Enemion biternatum*  
Eastern False Rue-Anemone

#### Filter/Display Options

Family/Genus Filter:

All Species

Sort by: Family/Scientific Name

Display Common Names

Display images:

#### Plant

##### habit

herbaceous

#### Leaves

##### arrangement/phyllotaxy

basal

opposite

##### blade division

some or all fully compound

#### Inflorescence

##### flowering season - upper Midwest

spring

summer

#### Flower

##### principal flower color

white or cream

To ultimately end with only *Enemion biternatum*, observe that the flowers mostly have 4 ovaries or give rise to a cluster of 4 fruits.

While the Golden Key may not always end with a single species, it should aid in reducing the number of choices to investigate further through the CMH Species pages or print references.

One final note, perhaps there were unfamiliar terms used in the Golden Key. We hope that in the near future there will be quick links to an illustrated glossary. The glossary words will be indicated by the letter "i" in a green disk.