

**Botany 401**

**Vascular Flora of Wisconsin**

**Exam 1 – take home portion**

[20 points out of 80 total; each question is 5 points]

Name: \_\_\_\_\_

1. Use the online key to ferns and relatives at UW-Green Bay to key this fern to species. These fronds (feature “a”) are about 2 feet long. Sporangia (feature “b”) are located in the darker tan areas.

species \_\_\_\_\_



2. Using resources you have learned about in lecture and laboratory, find 2 synonyms of the following species – *Opuntia fragilis* (Nutt.) Haw. – our native and threatened prickly pear cactus. Give the complete scientific name for both in correct format.

\_\_\_\_\_  
\_\_\_\_\_

Give one likely reason (of several) how such synonyms have arisen:

3. Using the Wisconsin State Herbarium Wisflora website, examine the distribution maps of the listed species below (for a more detailed distribution, click on the ‘View specimen location map’ link), visit other links provided at each species webpage, give a common name for each, and answer the following questions:

	<b>common name</b>
a. <i>Besseya bullii</i>	_____
b. <i>Gymnocladus dioica</i>	_____
c. <i>Abies balsamea</i>	_____
d. <i>Cakile edentula</i>	_____

- \_\_\_\_\_ The species that basically honors the Wisconsin Tension Zone by being confined to the Northern Hardwood Province.
- \_\_\_\_\_ The species that is confined to Great Lakes’ sandy lakeshores.
- \_\_\_\_\_ The species that is derived from the western “prairie element”.
- \_\_\_\_\_ The species that is derived from central North America but primarily restricted to “riparian” habitats.

4. Three of the important families you learned from the Wisconsin flora include the Ranunculaceae (buttercup family), Rosaceae subfamily Rosoideae (rose subfamily including raspberry, agrimony, cinquefoil), and the Fabaceae subfamily Faboideae (legume family). (Refer to lectures and/or other sources to see how the latter two subfamilies are defined.) Make a dichotomous key to these three families **using only vegetative or floral features from the following set**: stipules +/-, stamen number, hypanthium +/-, pistil number, fruit type.

- A.  . . . . . \_\_\_\_\_
- A.
- B.  . . . . . \_\_\_\_\_
- B.  . . . . . \_\_\_\_\_