FIELD BOTANY TAKE-HOME PRACTICAL - 2008

BIO 2500 Lab Sec. _____ **NAME _____**

PROCEDURE: Follow instructions below and the map at the BIO 2500 Lab Page to find each tree or shrub, and use *Michigan Trees* to provide the information requested. You may work alone or with one or more other students as long as you are personally involved. Make additional field notes of "distinguishing characteristics" (See Lab #2) for your own study on separate paper.

ENS /FOUNDERS /CENTENNIAL LIBRARY LOOP – Leave ENS at the south exit (near observatory) and walk S. along E. boundary of the parking lot leading to the "Hill Dorms." Along the boundary, study American Basswood (*Tilia americana*) with heart-shaped leaves that are assymetrical at the base , black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotina*), and Scots Pine (*Pinus sylvestris*) orange bark, 2 needles/cluster:

1. This deciduous **tree (#94)** is just W. of the connecting drive between "Hill Dorm" parking and the lower ENS lot.
   Common Name _____ Sci. Name _____

2. Tree #15, a Silver Maple, is about 10 m S of the administrators' parking at Founders Hall. **Tree #20** stands about 10 m W of Tree #15. This maple also has serrated leaf margins but note the shallower sinuses

   Common Name _____ Sci. Name _____

3. **Tree #18** is 20 m S of tree #15 and grows adjacent to College St. Note the thick, corky bark even on young branches.
   Common Name _____ Sci. Name _____

4. Walk eastward along College St. toward Faith Hall. Notice a small oak, **tree #608** (tag on branch)**,** in line with others like #18.
   Common Name _____ Sci. Name _____

5. As the sidewalk from Founders approaches the corner of College and Main is **tree #1**. Look north toward the brick university entrance sign and find **tree #30**, a large maple with bark typical of those tapped for a

   commercial product, namely _____. Sci. Name _____

6. Now walk northward into the parking lot and toward Founders Hall. On your left, notice a small tree and near its base, a bronze marker in memory of Dr. Joanna "Jodi" Grosh. Note oval leaves with veins parallel and the button-like flower buds. This tree, **#36**, beautifies the front of Founders Hall in Spring.

   Common Name _____ Sci. Name _____
   Note: Face the bronze marker and then walk around the tree to your right 6 paces and to view a conifer tree called Dawn Redwood, *Metasequoia glyptostrobodies*, once thought extinct until found alive in Asia!

7. Now walk N-ward toward Collins H. and past an Eastern White Pine, *Pinus strobus,* an important pine of the Great Lakes Region. How many needles per cluster? ___ List 2 medicinal uses of this pine by Native Americans (*e.g.* see http://www.mwrop.org/W_Needham/EasternWhitePine_060326.htm)

   _____

8. Overshadowing the *Pinus strobus* from the north is a Norway Spruce, *Picea abies*. Besides having shorter, stiffer needles, how does *Picea abies* differ from *Pinus strobus*? [Describe this genus-level distinction of *Pinus* (pines) from *Picea* (spruces).]

   _____

   Suggest a probable cause of the loss of bark. _____ Note the healing process.

9. Just N. of the Norway Spruce and E of an unusual Norway Maple (*Acer platinoides*) with its branches spreading to the ground. Sever a leaf from the twig, squeeze the petiole (leaf stem) at the end. What color is the sap? _____ This "distinguishing character" of Norway Maple separates it from other *Acers*.

10. Just E of the Norway Maple (#49) is **tree, #219**, an important "nut tree" for wildlife, although this specimen may be too young to bear fruit (nuts). Note the smooth gray bark.

    Common Name _____ Sci. Name _____

11. Now, follow the sidewalk past the NE corner of Collins Hall and a Cedar of Lebanon, *Cedrus libani* (on left; native of Europe/Asia). Continue north around the Main St. end of Williams Hall and toward Milner Hall. Identify one of the two large trees growing along the N side of Williams Hall. Notice the base of the petiole is hollow and hides a bud until removed. These are hybrids as described in *Michigan Trees,* and a **correct answer** below should reflect the "hybrid status."
    Common Name _____ Sci. Name _____
    Along the W end of Williams, you will see a shrub, Japanese Yew, *Taxus cuspidata*, with needles similar to Eastern Hemlock, *Tsuga canadensis*, but without the two white lines beneath. It's poisonous seeds are partly covered by a fleshy edible *aril. Taxus brevifolia*, Pacific Yew, is source of the anticancer drug, taxol.

12. As you approach the sidewalk, and approx. 30 m NW of Williams is **tree #327** (on branch), planted in honor of Nathan Battaglia, former CU student whose family still live in the area.

    a. Common Name _____ Sci. Name _____

    b. Distinguish leaves of trees #327 and #608 in item 4. _____

    _____

13. Join the nearby sidewalk and go north. Note 3 large maples on your left. Center tree is **#337** (branch tag).

    Which of the 3 maple species already encountered is this one? Sci. Name _____

14. Now, enter the Library Plaza area and identify the large evergreen conifer towering above the plaza plaque:

    c. Common Name _____ Sci. Name _____

    d. How can one distinguish this species from *Picea abies* (#8) _____

CAMPUS GREEN LOOP: Go south on the walk adjacent to E side of Milner Hall and notice the towering old Norway Spruces with their drooping branches. Follow the sidewalk that angles slightly to your right and passes a small oak similar to tree #327. Immediately beyond this oak on your left are two columnar evergreens. Stand between the two trees and face toward Tyler Hall. Locations of the final 3 species are described below in relation to this position. Note the following locations and descriptions; then complete the corresponding blanks below:

15. In front of you is another columnar tree similar to the two where you are standing. Study all 3 to identify:
16. Go toward Tyler past the columnar tree (in 15.) to see **Tree #163**, an exotic-looking tree w. fan-shaped leaves.
17. Toward the NE corner of Tyler is another columnar tree, **#165** (on branch), different from the one in #15.

Your identifications:

15. Common Name _____ Sci. Name _____

16. Common Name _____ Sci. Name _____

17. Common Name _____ Sci. Name _____

    Distinguish the foliage and cones of the columnar trees in #15 and #17. _____

    _____. Congratulations, you are finished!