

BIO406D Lab#1 – Vegetative Morphology Activity

Name or UTEID _____

Fall 2005 – Visit each station and
answer accompanying questions

current e-mail address _____

1. *Acacia sp.* – This native tree has compound leaves commonly seen in the bean family (Fabaceae). What is the leaf complexity? _____ Note the **petioles** and **petiolules**. How are the leaves arranged on the stem? _____ Also note the **prickles** on the stem (be careful!!!).
2. *Myrica cerifera* – Wax myrtle/Bayberry. The fruits of this plant are covered with a heavy waxy coating, and if boiled, a layer of wax can be skimmed and fragrant candles made! This long, thin leaf shape is called: _____. The leaves do not have much of a petiole; we call therefore call these **sessile** leaves. Notice the prominent midrib in the leaves. What leaf margin is present? _____ Are the leaves glabrous or pubescent? _____
3. What is the leaf shape? _____ How do you describe the leaf surface? _____
4. *Nandina sp.* – This entire plant piece is a **single leaf!!!** Is it simple or compound? _____ What kind of **apex** does each leaflet have? _____
5. How do you describe the leaf surface of this plant? _____ What is the leaf venation? _____
6. *Tecoma stans* – What leaf arrangement do we have here? _____ Are these leaves pinnately or palmately compound? What do we call the **leaflet margin** (hint: it's Latin for **toothy**) _____. Notice the obvious **lenticels** scattered along the stem. What are lenticels for? _____
7. What type of venation do these leaves have? _____ What is the leaf margin? _____
8. *Chasmanthium latifolium* – This grass is native to Texas. What type of venation do the leaves have? _____
9. *Jasmiun mesneyi* – This jasmine plant has fragrant yellow flowers in spring. What leaf complexity? _____ If you're stumped, look for **axillary buds** to guide the way. This plant also has **square stems**. Is the leaf surface glabrous or pubescent? _____
10. *Salvia sp.* – Note the square stems and opposite leaves. What is the leaf shape? _____
11. *Cercis canadensis* var. *texensis* – What is the leaf shape? _____
12. *Quercus sp.* - Oak leaves. Different oak species have wildly different leaf margins. What margin is present in these oak leaves? _____
13. *Malvaviscus drummondii* – Turk's Cap What is the leaf margin? _____ What leaf surface? _____

14. St. Augustine's grass – Many grasses can spread all over a lawn by way of their **stolons**. Notice at each **node** there is a plantlet and fibrous roots, which essentially act as independent plants. What major plant part is modified into a stolon? _____
15. *Sabal minor* – Palm leaf. Notice the **palmately-compound** leaf complexity. What is the long stalk that pushes the leaf out of the ground? _____
16. *Arundo donax* – We will be covering Giant Reed later this semester. It is one of the largest grasses in the area! Notice the parallel venation.
17. Red cabbage – Cultivated for a much-reduced stem with very large, fleshy, overlapping leaves. The nodes are tightly packed together such that it is difficult to tell what leaf complexity it has!
18. Carrots and radishes – What structures are these - stems, roots, or leaves? What type? _____
19. Brussel sprouts – Essentially baby cabbages! What, **botanically**, is a brussel “sprout”? _____ (Your hint is that it arises from a **leaf base** – on this specimen we only have the petioles remaining). Some of the leaves are totally gone, even the petioles, leaving behind **leaf scars**. Notice how big they are, and how you can see where the vascular tissue bundles were.
20. Onions are bulbs – the stem is much reduced, and the fleshy leaf bases make up most of what we know as an onion. On this specimen, note the extended green part of the leaves. Based on venation, is this a monocot or dicot? _____
21. Celery – What plant part do you eat when you eat a celery stalk? _____ (hint: look at the leaf blades at the top of the stalk).
22. Potatoes are **tubers**, which is what plant part, modified? _____ As a hint, I can tell you that the “eyes” of potatoes are really **axillary buds**!
23. Sweet potatoes look a lot like Irish potatoes, but botanically they are very different. Are there “eyes” on sweet potatoes? (no) Therefore, it is not a tuber. What plant part do you think sweet potatoes are?

24. Asparagus stalks are the **early shoots** of what will become a tall, fibrous plant. What are the “scales” on the asparagus stems? _____