

Plant Collection Criteria Fall 2014

(Adapted from Arkansas State University – Dr. Travis Marsico)

A. Number of specimens:

You are required to submit specimens from 25 different taxa (35 for graduate students and honors students). These specimens can be from any reproductive (spore, cone, flower, and/or fruit) vascular plant. All material must be collected **this semester** for this class **by you** anywhere in Tennessee (or surrounding region) where you obtain permission to collect. Be sure to talk with park offices before you collect. Remember, anywhere you obtain permission from a landowner to collect plants is ok, but these areas do not require special permission, as I already have it.

B. Kind of specimens:

The specimens are to be from native or naturalized woody plants, not from cultivated plants (native or exotic). Cultivated material will not be accepted. Without permission and/or permits, you should not collect from public or private lands.

C. Representation:

Part of the reason for the collection is to familiarize you with the diversity of plants, not to make you an expert on a small group. Therefore, the greater the diversity in your collection the better.

D. Grading:

The collections will be graded on three aspects: accuracy of identification (5 points: 1 pt. for correctly ID'd family, 2 pts. for correct genus, and 2 for correct epithet), quality of specimen (1 pt.), and label information (2 pts.). Since the collection is worth 200 points (280 for grad students and honors students), it breaks down to 8 points per specimen.

- 1) **accuracy of id:** 5 points (family, genus, epithet(s) and author(s)). Common name is not required; it is optional, but useful. Use standard family names (those with -aceae endings). I recommend that you key the plant with two sources (at least) as a cross check. Use your book and an additional source. Pictures can provide some assistance, but will not be sufficient for species identification. **PLEASE STANDARDIZE ALL YOUR NAMES AGAINST 'THE PLANT LIST' FOUND AT www.theplantlist.org.**
- 2) **quality of specimen & label:** 3 points, 1 for the specimen and 2 for the label.
 - a) **Plant-**it takes time to learn how to choose and make a good herbarium specimen. Ideally, the specimen should be representative of the variation on the plant from which it came. If you cannot do it with one, make two. Include the parts of the plant necessary for an

identification. If fruits are needed, they have to be included. If flowers are necessary, likewise. If in doubt, check your taxonomic keys as you collect to determine what is needed and/or ask me; if the key calls for it, get it! The plant should be neatly folded/trimmed to fit into the 12" X 18" press; nothing should extend beyond the sides of the press. That includes the newspaper. **If either the plant or the newspaper exceeds 12" x 18", I won't accept the specimen and it doesn't count.** Also, the specimen should reasonably fill the 12" x 18" space available.

b) **Label**-a specimen without proper supporting information is worthless. Therefore, proper label data is essential. **The label should include the following in this order:**

- a) state
- b) county
- c) identification (family, species, author(s), etc.)
- d) location (be exact; be descriptive); GPS coordinates will not substitute for other info; that is **you must have 'driving' directions.** In addition you can choose between having T & R and GPS coordinates (decimal degrees, e.g., 34.88864°N, 092.33455°W)
- e) description; any data that will not be available on the specimen (e.g., habitat information, associated species, fresh flower color, bark color or texture, etc.)
- f) date of collection (European format: 2 April 2012)
- g) your name (first name, middle initial, last name)
- h) your collection number (#1, 2, 3,x; use Arabic numerals, not Roman)

Label data are to be taken from your field collection notebook (collection log). A cheap, spiral-bound, pocket memo book will be fine. It is impossible to remember details after a short time, so write them down as you collect. You will be surprised with the future value of label information and the uses to which it will be put. You will then enter your data into an Excel spreadsheet that you will turn in with your collection. The Excel template is provided.

E. Labels:

When submitted, each specimen must have a label that includes the data from above. This must be typed on a standard label which will be provided. There are separate instructions for entering all your data into an Excel spreadsheet and then importing them into a label-ready Word document. Remember that the label is a permanent record of your work and will survive long after you are gone. All collectors have gotten lazy and sloppy at times, but this is not the way you wish

to be remembered. Remember, dates on labels should follow the European Format: numerical date, month (no numbers), and year (4 digits). For example, 2 April 2012. The label should be placed into the newspaper on top of the specimen. **Do not glue, tape, staple or paperclip the label to the specimen of the newspaper.**

F. Date collection is due:

The collection is due on **Tuesday, 2 December 2014 by the end of class period. Late collections will not be accepted.** Specimens won't be returned to you. Specimens useful for the MTSU collection or for teaching purposes will be assimilated. Other specimens will be used for teaching collections.

G. Finally:

The purposes of this collection are: to familiarize you with a number of plants; to teach you how to identify plants; and to teach you how to prepare proper herbarium specimens. Always remember that you are preparing herbarium specimens for scientific purposes, not a leaf collection for a grade school science project. What we are doing requires much more effort, but it has lasting significance (beyond the fact that it is part of your grade). **Last, but not least, do as little damage to the plants and the environment as you can.** In some cases, plant taxonomy classes are the biggest threat to the flora; after a class has gone through the woods it looks like a herd of elephants has gone through stripping all of the vegetation within reach. It is pointless to study plants if in the process you annihilate them.

H. Recommended Procedures:

- 1) Maintain a field log or notebook in which collection data can be recorded as you go! The data from this notebook can be copied directly to your labels. Assign each specimen a collection number as you collect it; the number should be written on the newspaper as the plant is pressed (#1, 2, 3,x).
- 2) Press the plants while in the field and dry them as soon as possible. If you cannot press immediately, place them into plastic bags with damp newspaper and keep cool. In a pinch some plants can be maintained for several days in this way. It is often best to collect two specimens, one to use for identification and the other to submit. It is easy to spot a specimen that was pressed long after it was collected, and one that sat in the press for some time before it was placed in the drier. Those are bad specimens and will have a reduced score for turning such specimens in.
- 3) You will have access to the plant drier in the herbarium. If you use the herbarium drier, please tuck a sheet of paper with your name and date into the corner of the press so that specimens do not get misplaced. Label all paper bags with your name and collection number. Remove presses after

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several days so that others may use the drier(s). Keep your plants in a dry, secure place away from children, cats, dogs, etc. If you can't make it to the drier easily or if it is full, you can dry the plants by placing your press in a car parked in the sun.

- 4) I don't mind if you go to collect together, but you are required to collect, press, identify and label your own plants. Do not trade or buy plants from others. That is cheating and will get you an F for the course.
- 5) Start the collection early in the semester...before you probably even expect to find flower plants. Many early-flowering species can be found in Arkansas even in the winter months. Do not put your collection until the end of the semester; you will regret it if you do.