



## BUILDING YOUR MUSHROOM MEMORY III

By Dr. Walt Sundberg, Mycologist, Professor Emeritus, Southern Illinois University  
Chief Mycologist (Scientific Advisor), Missouri Mycological Society  
This is the 3rd in a series of articles by Dr Sundberg on this subject

# Sharpen Your Knowledge by Writing Your Own Identification Keys

In the upper and mid-continental Midwest, mushroom season 2009 is now nearing its end. As the temperatures drop in the fall, many of the common “summer mushrooms” become infrequent and often disappear all together. However, this environmental change results in the appearance of several more cool weather species, including more frequent sightings of *Hericium*, *Pseudohydnum*, *Suillus*, *Chroogomphus*, and some *Calvatia* species to name a few. For many of us, by the time you read this Issue of the Newsletter, mushroom season in our neck of the woods may essentially be over, except perhaps for a few cold tolerant or somewhat freeze-hardy species.

However, you can extend your collecting and learning in the field by traveling to other regions. Perhaps you could go to where warmer mushroom-producing climates still remain, such as in Louisiana and other Gulf Coast or southern States, or to regions like central or southern California, where the coastal mushroom season continues on in some places until January or later. Short of the ability, time, and/or funds to carry out such travel, the winter months become a time for doing *Building Your Mushroom Memory* via “arm chair mycology.”

Did you start preparing your **Personal Mushroom Life List** yet? If so, great. If not, it is NEVER too late to start. Start yours now! And, always carry a copy with you on field trips for “memory jogging”. For life list “how to” details, see Parts 1 and 2 of this series in previous 2009 issues of the Earthstar Examiner, the MOMS Newsletter, or request a copy from Walt Sundberg (sundberg.wj.407@verizon.net).

Although we will return in a later issue of the Earthstar to further development of a personal life list, herein I am suggesting that club members consider learning more by working intensively with one small group of fungi (and, perhaps, ultimately being able to share information gained with others in the club). The purpose here is for some members of the club, each working independently, to select and become better versed with one SMALL group of mushrooms (fleshy fungi; group choice and size up to the “participant”) with the goal of writing one or more identification keys to the group selected. The purpose of this exercise is NOT to copy keys already in the literature, but to learn through personal (i) collecting or documenting information on the fungi you select available in books and references, (ii) collating that information in some logical way, and then, (iii) using that data to develop your own key (or way) to distinguish between the fungi selected.

For purposes of this exercise and to gain some initial key writing experience, select or work with a small group with a limited number of entities (e.g., 4-6) of your choosing. For example 4-6 (a) families or b) genera, or (c) species in the same genus. A few suggestions are noted below as examples, but don't be limited by these. Try working with any group in which you have some innate interest. Whatever you do for this exercise, keep the number of entities included small.

- a. Four ‘traditional’ mushroom (gill fungus) families with white or light colored spores
- b. Four different **genera** of bird’s nest fungi
- c. Four different **genera** of puffballs
- d. Four different **species** of *Lycoperdon*
- e. Five different **species** of *Lactarius*
- f. Six different **species** of Polypores

After selecting a small group of fungi on which to work and learn, gather any and all data available to you on the entities (e.g., families, or genera, or species) you select. Prepare a comparison table (or chart) on the characteristics or features each exhibits noting **similarities** and **differences** between them. After completing this table and comparing similarities and differences between the species included, using the differences noted, construct your own **Dichotomous Key** to help you distinguish between and identify each in the future.

An example of a Dichotomous Key (one with choices offered in pairs and followed or used like a worded “treasure map”) is included below.

### Example Dichotomous Identification Key

To use: Reach in your pocket and pull out one coin. Start at pair (choice) number 1. Select which #1 character noted best fits your coin, and then proceed to the number noted to the right. Continue through the “key” until you arrive at the ID of your coin.

#### Key To Coins Sometimes Found In A Purse Or Pants Pocket

- 1. Coin silver . . (go to).....2
- 1. Coin some other color . . (go to).....5
- 2. Coin 24 mm or more in width .....3
- 2. Coin less than 24 mm in width .....4
- 3. Coin wider than 24 mm..... Half Dollar
- 3. Coin approximately 24 mm wide ..... Quarter
- 4. Approximately 22 mm wide ..... Nickel
- 4. About 18 mm wide ..... Dime
- 5. Coin more than 20 mm wide ..... Sacajawea Dollar
- 5. Coin less than 20 mm wide..... Penny

Although this exercise is designed to be a **personal** learning experience, ultimately, the knowledge and key(s), once well honed and tested in the field, might, perhaps, be shared with others in the Club (or perhaps a wider audience) via using the key(s) prepared so that others can also learn to more readily identify and distinguish between the fungi in the group studied.