Western Pennsylvania Mushroom Club

Fungi, fun and friends!

Preparing Mushrooms for Herbarium Storage

After all the data has been compiled from a fresh mushroom specimen and photographs have been taken, the mushroom should be prepared for herbarium storage. This is accomplished by drying and is a critical step that can make the difference between a valuable scientific specimen and a useless one. Too much heat too quickly causes tissue damage and loss of the ability to obtain DNA extraction in the future and incomplete, partial drying may result in rot and mold growth that destroys the sample. Several methods have been used successfully – common features are a dry heat that circulates around a fresh specimen placed on screen shelving. Best results are obtained if the drying can be done as soon as possible after the macroscopic annotation.

A food dehydrator with temperature control is ideal. Good results are obtained with forced air at 50 deg. C (120 deg F). Small mushrooms may be placed whole while larger specimens may need to be cut longitudinally in quarters or eighths. Be sure to place a small identification label with each specimen on the dryer tray. Depending on the size of the specimens, drying may take hours to days. The lower the temperature and the larger the specimen, the longer the time required. Check on the mushrooms every few hours and remove them when they have a crisp, brittle, cracker dry consistency. If they bend rather than snap they need more drying. Do not dry mushrooms in main living areas because dehydrators blow a high volume of spores into the air that may cause headache, rash, and allergies in certain individuals.

Once the specimen is dried it must remain so or it can rehydrate and become susceptible to decay by mold or insect damage. Place it in a zip-locked plastic bag or closed container that can be supplemented with activated silica gel or other desiccants if they are subject to high humidity. Freeze the dried specimens for 5 days to eliminate any residual insect larvae. Once the specimens have been shipped to the herbarium for long term storage they may repeat the freezing step at -20 deg F.