

## Mulberry Pest Collection and Preservation

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**Experiment No. 5:** Collection, Identification and mounting / preservation of insect pests of mulberry (field work).

**Pest:** A destructive insect that attacks mulberry plants is called as a pest.

**Insect Collection:** Insects can be collected by hand, light trap and with a net. Except adults, egg, larvae/nymphs/maggots and pupae can be collected by hand. However, adults can be collected by net/light traps only.

Collect as many as possible insects from the mulberry garden, identify and preserve them for laboratory use.

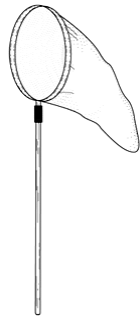
The preservation of collected specimens is of two types.

- i. Liquid Preservation: This method is ideal for the larvae and other forms of soft bodied and tiny insects *i.e.*, 4% formaldehyde solution / 95% alcohol / 70% isopropyl alcohol is ideal for preservation of the specimen.
- ii. Pinned Preservation: In this method the specimens are preserved as mounted directly on pins after killing and drying. This method is useful to study the morphological characters when compared to first one. However, only adult stages can be preserved in this method.

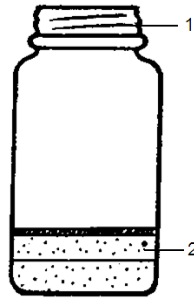
The pinned preservation technique is explained as below.

### **Materials Required:**

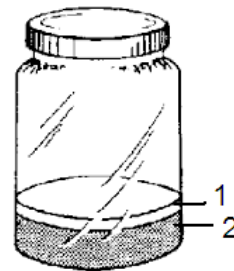
1. Nets: For collecting adults only.
2. Killing Jar: Glass jar with screw lid with absorbent material (cotton) at the bottom to hold ethyl acetate (also nail polish remover works).
3. Forceps: Handling insects properly can protect against possible bites or stings, as well as prevent damage to the fragile specimens. Handle very small insects with a small paintbrush.
4. Relaxing Jar: After death of the insects, insects can be softened (to minimize the breaking of any body part) in a relaxing jar before pinning.
5. Spreading Board: Spreading boards are useful for laying the wings of insects out flat and holding them in place while the specimen dries.
6. Insect pins and labels: Insect pins are long, slender pins made specifically for mounting insects. Labels for pinned specimens should be made on relatively heavy stock paper.
7. Storage Boxes: For preservation of adults.



**Net**



**Killing Jar**



**Relaxing Jar**



**Spreading Board**



**Preservation Box**

**Procedure:**

1. Collect the adults of different pests of mulberry.
2. Put them into killing jar and leave for few min or till the death of the insect.
3. Transfer them to relaxing jar 2-3 days.
4. Spread the insect wings, arrange legs and antennae etc properly, pin them and leave it for complete drying. It may take few days.
5. After complete drying, preserve them in a preservation box with appropriate labeling.

**REFERENCES**

1. <https://www.extension.umn.edu/youth/mn4-H/projects/environment/entomology/collecting-and-preserving-insects/>

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