

Datura - Macroscopy Powder and Microscopy

Experiment 3 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To describe the authenticated leaf material of Datura and record supporting identity characters.

Principle

A crude drug is identified from a combination of botanical source, plant part, external morphology and microscopic evidence. Common fragments are not sufficient on their own.

Requirements

- Authenticated Datura specimen and supplied powder or prepared slide.
- Microscope, measuring scale, slide tools and the assigned species atlas.

Procedure

1. Establish source

Record Datura stramonium; Solanaceae. State the specimen code and the supplied plant part.

2. Macroscopic study

Unequal leaf base and an irregularly toothed margin; record the actual specimen shape. Measure size, colour, surface and fracture without tasting the material.

3. Section study

Orient the prepared section, identify outer and inner tissue regions and draw a labelled outline.

4. Powder study

Epidermal fragments, stomata and covering/glandular hairs; compare the assigned species atlas. Record only the structures actually observed and the magnification used.

5. Compare and conclude

Different Datura species and other hairy leaves require an authenticated comparison. Compare the combined evidence with the assigned authenticated specimen.

Pharmacognosy and Phytopharmaceuticals

Observations and Record

Record	Observation
Source / plant part / code	_____
Macroscopic characters	_____
Section tissues and drawing	_____
Powder fragments / magnification	_____
Supported identity and limitation	_____

Result

Datura specimen code: _____. Plant part: _____. Supporting features: _____. Comparison outcome and limitation: _____.

Precautions

- Never taste crude drugs; toxic specimens require the assigned contained handling or prepared material.
- Record botanical source and plant part instead of relying only on the commercial name.
- Distinguish expected comparison characters from features actually seen.

Viva Questions and Answers**1. What is the examined plant part?**

Leaf.

2. Which features support the comparison?

Unequal leaf base and an irregularly toothed margin; record the actual specimen shape. Epidermal fragments, stomata and covering/glandular hairs; compare the assigned species atlas.

3. Does one common fragment establish identity?

No. Use the combined specimen and microscopic evidence.

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