Podophyllum - Macroscopy Powder and Microscopy

Experiment 17 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To describe the authenticated rhizome and roots material of Podophyllum 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 Podophyllum specimen and supplied powder or prepared slide.
- Microscope, measuring scale, slide tools and the assigned species atlas.

Procedure

1. Establish source

Record Assigned Podophyllum / Sinopodophyllum source named by the institution; Berberidaceae. State the specimen code and the supplied plant part.

2. Macroscopic study

Rhizome pieces with nodes and root scars; retain the assigned species label. 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

Starch-containing ground tissue, vascular elements and root/rhizome structures from the authenticated atlas. Record only the structures actually observed and the magnification used.

5. Compare and conclude

The traditional drug name can refer to different source species; do not assign one from an incomplete specimen. Compare the combined evidence with the assigned authenticated specimen.

Observations and Record

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

Result

Podophyllum 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?

Rhizome and roots.

2. Which features support the comparison?

Rhizome pieces with nodes and root scars; retain the assigned species label. Starch-containing ground tissue, vascular elements and root/rhizome structures from the authenticated atlas.

3. Does one common fragment establish identity?

No. Use the combined specimen and microscopic evidence.

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