Rauwolfia - Macroscopy Powder and Microscopy

Experiment 14 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

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

Procedure

1. Establish source

Record Rauvolfia serpentina, traditional spelling Rauwolfia; Apocynaceae. State the specimen code and the supplied plant part.

2. Macroscopic study

Twisted root pieces with longitudinal surface marks; examine fracture. 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

Cork, narrow bark and a large central wood region in the assigned root section. Record only the structures actually observed and the magnification used.

5. Compare and conclude

Confirm root versus rhizome and the authenticated source; anatomy alone may not resolve all related species. 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

Rauwolfia 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?

Root.

2. Which features support the comparison?

Twisted root pieces with longitudinal surface marks; examine fracture. Cork, narrow bark and a large central wood region in the assigned root section.

3. Does one common fragment establish identity?

No. Use the combined specimen and microscopic evidence.

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